Northeast Fisheries Science Center Reference Document 12-27

Standardized Bycatch Reporting Methodology 3-year Review Report --2011 Part 2

by SE Wigley, J Blaylock, PJ Rago, KT Murray, TA Nies,
RJ Seagraves, D Potts, and K Drew

Northeast Fisheries Science Center Reference Document 12-27

Standardized Bycatch Reporting Methodology 3-year Review Report --2011 Part 2

by SE Wigley[1], J Blaylock[2], PJ Rago[1], KT Murray[1], TA Nies[3], RJ Seagraves[4], D Potts[5], and K Drew[6]

[1]NOAA National Marine Fisheries Service, Northeast Fisheries Science Center, 166 Water Street, Woods Hole, MA 02543-1026

[2]Integrated Statistics, 16 Sumner Street, Woods Hole, MA 02543

[3]New England Fishery Management Council, 50 Water Street, Mill 2, Newburyport, MA 01950

[4]Mid-Atlantic Fishery Management Council, 800 North State Street, Suite 201, Dover, DE 19901-3910

[5]NOAA National Marine Fisheries Service, Northeast Regional Office, 55 Great Republic Drive, Gloucester, MA 01930-2276

[6]Atlantic States Marine Fisheries Commission, 1050 North Highland Street, Suite 200A-N, Arlington, VA 22201

US DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Northeast Fisheries Science Center
Woods Hole, MA

September 2012

Northeast Fisheries Science Center Reference Documents

This series is a secondary scientific series designed to assure the long-term documentation and to enable the timely transmission of research results by Center and/or non-Center researchers, where such results bear upon the research mission of the Center (see the outside back cover for the mission statement). These documents receive internal scientific review, and most receive copy editing. The National Marine Fisheries Service does not endorse any proprietary material, process, or product mentioned in these documents.

All documents issued in this series since April 2001, and several documents issued prior to that date, have been copublished in both paper and electronic versions. To access the electronic version of a document in this series, go to *http://www.nefsc.noaa.gov/nefsc/publications/*. The electronic version is available in PDF format to permit printing of a paper copy directly from the Internet. If you do not have Internet access, or if a desired document is one of the pre-April 2001 documents available only in the paper version, you can obtain a paper copy by contacting the senior Center author of the desired document. Refer to the title page of the document for the senior Center author's name and mailing address. If there is no Center author, or if there is corporate (*i.e.*, non-individualized) authorship, then contact the Center's Woods Hole Laboratory Library (166 Water St., Woods Hole, MA 02543-1026).

Editorial Treatment: To distribute this report quickly, it has not undergone the normal technical and copy editing by the Northeast Fisheries Science Center's (NEFSC's) Editorial Office as have most other issues in the NOAA Technical Memorandum NMFS-NE series. Other than the four covers and first two preliminary pages, all writing and editing have been performed by the authors listed within.

Information Quality Act Compliance: In accordance with section 515 of Public Law 106-554, the Northeast Fisheries Science Center completed both technical and policy reviews for this report. These predissemination reviews are on file at the NEFSC Editorial Office.

This document may be cited as:

Wigley SE, Blaylock J, Rago PJ, Murray KT, Nies TA, Seagraves RJ, Potts D, Drew K. 2012. Standardized Bycatch Reporting Methodology 3-year Review Report --2011 Part 2. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 12-27; 226 p. Available from: National Marine Fisheries Service, 166 Water Street, Woods Hole, MA 02543-1026, or online at http://www.nefsc.noaa.gov/nefsc/publications/

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDIX TABLES

EXECUTIVE SUMMARY

The Standardized Bycatch Reporting Methodology (SBRM) Omnibus Amendment to the fishery management plans (FMPs) of the Northeast Region was implemented in February 2008 to address the requirements of the Magnuson-Stevens Fishery Conservation and Management Act to include standardized bycatch reporting methodology in all FMPs of the New England Fishery Management Council and Mid-Atlantic Fishery Management Council. The SBRM requires a comprehensive 3-year review report that has two basic requirements: (1) annual estimates of discard totals, and (2) a review of the overall efficacy of the sampling design.

This report summarizes Part 2 of the 3-year review report requirement; Part 1 was completed April 2011. During the preparation of the Part 2 report, on September 15, 2011, the SBRM Omnibus Amendment was vacated by the U.S. District Court for the District of Columbia. The regulations implementing the SBRM were removed by the National Marine Fisheries Service on December 29, 2011. The SBRM Fishery Management Action Team (FMAT) agreed to continue to complete Part 2 of the 2011 SBRM 3-year Review Report, recognizing that the analyses conducted may be useful for future SBRM amendments.

The review and evaluations presented in the report are based on data summarized in SBRM annual reports for 2009, 2010, and 2011 and the SBRM 3-year Review Report 2011 - Part 1. These data were collected from July 2007 through June 2010 for 61 fleets and 15 species groups and the individual species that comprise these groups to encompass all federal FMP-managed species and sea turtles in the Northeast.

When considering mechanisms to reduce discard, it may be useful to know why discarding is occurring. Fish may be discarded for economic reasons (e.g., no market or poor quality) or for regulatory reasons (size, quota, or other). The reasons for discarding varied by species group, and patterns of discard reasons persisted over years. The majority of discards are associated with "No Market."

The SBRM performance standard is a 30% coefficient of variance (CV) of the total discards. This performance standard applies to each unique fleet, species group, and SBRM year (cell). On an annual basis, the percentages of cells that met the SBRM performance standard in SBRM 2009, 2010, and 2011 were 63%, 60%, and 69%, respectively. Across SBRM years, the percentages of cells that met the SBRM performance standard in SBRM 2009, 2010, and 2011 vary by species group and fleet. There were 55 cells that did not meet the SBRM performance standard. The annual SBRM performance classifications for cells in the analysis were summarized by species grouped using the following three categories: (1) "Not Met"; (2) "Met"; or (3) "Met" and "Not Met" ("Unknown" cells and cells filtered out via the importance filter were excluded). There were five species groups (Atlantic salmon, bluefish, Atlantic herring, surfclam and ocean quahog, and tilefish) without any cells classified as "Met" or "Not Met". There were two species groups (squid-butterfish-mackerel and red crab) where the performance classifications were all "Not Met" (no cells with a performance classification of "Met"). There was one species group (scallops) where all the performance classifications were "Met" (no cells with a performance classification of "Not Met"). There are seven species groups (fluke-scup-black sea bass, large mesh groundfish, monkfish, skate complex, small mesh groundfish, spiny dogfish, and sea turtles) where the performance classifications were a mix of "Met" or "Not Met."

Summarizing the annual SBRM performance classifications by fleets, the same three categories were used. Of the 52 fleets, 27 fleets were excluded due to all cells being "Unknown"

and five fleets were excluded due all cells classified as “Unknown” or filtered out. There were two fleets where the performance classifications were “Not Met” for all cells used in the annual sample size analysis. There were eight fleets where the performance classification was “Met” for all cells. There were 10 fleets where the performance classifications were a mix of “Met” or “Not Met.”

The SBRM uses the variance of discards from the previous year to determine the number of sea days needed in the next year. This method assumes the variance of the discard estimates are stable such that the variances can be used from one year to inform the sample size needed in the following year. The comparison of discard variances and comparisons of discard CV revealed a relatively strong relationship between SBRM years indicating that the assumption of similar variance across years holds and that the influence of the magnitude of discards is relatively constant as well. The expected CVs derived using data with a lag between the SBRM standard sea days and the species group variances were compared with the expected CVs derived using data where there was no lag between the SBRM standard sea days and the species group variances. Evidence suggests the assumption that discard variances are stable over time is valid, particularly for a one-year lag.

The SBRM methods used during the three years are similar to those used in the initial analytic analysis for SBRM; only minor changes to these methods occurred over the 3-year period. During this 3-year evaluation, further refinements to the methods were explored; these include modifications to the importance filter (unlikely filter), consideration of pilot coverage, and modifications to estimating monitoring requirements for sea turtles species.

The evaluation of the use of the unlikely filter for all species groups included the influence of the unlikely filter on the SBRM standard days by fleet, the interaction of the unlikely filter with pilot coverage status of the fleet, and suggested approaches for future use of the unlikely filter. Based on a review of the 2009, 2010, and 2011 SBRM, no substantive changes to the final determination of the SBRM standard sea days for these three years would have occurred if the unlikely filter had been removed from the importance filter.

An exploratory summary of pilot coverage highlighted the need to expand the implementation of pilot coverage to include the consideration of the number of active vessels within fleet to avoid excessive coverage in fleets comprised of only a couple of vessels. The continued use of 2% pilot coverage when all species groups are filtered out warrants further consideration.

Revised SBRM methods might be considered for sea turtles due to the rare nature of turtle discard events. An alternative approach for turtles is presented whereby monitoring requirements are estimated for fisheries associated with estimated loggerhead bycatch. Roughly 4,800 days are needed across bottom trawl fisheries, based on estimated bycatch precision levels for trips catching Northeast multispecies. Roughly 1,400 days are needed across sink gillnet fisheries, based on estimated bycatch precision levels for trips catching spot. Lastly, ~1,300 days are needed in the scallop dredge fishery, based on loggerhead bycatch precision levels after chain mats were implemented in the fishery. These estimated sea days will remain in place each year until new bycatch estimates are published (currently every 5 years), and will be reassessed if there are major changes in the fishery (such as a gear modification).

Several analyses were conducted to examine differences between trips with and without observers. There is little evidence of systematic bias across all fleets. There are, however, a few fleets where evidence suggests there may be differences between observed and unobserved vessels that could affect discard estimates.

The majority of cells that did not meet the performance standard were associated with Mid-Atlantic fleets, the fleets most impacted by the funding constraints. Overall, of the 15 species groups, there were five species groups, corresponding to 4 FMPs, with cells that did not meet the performance standard in some of the fleets in all three SBRM years. Consequences to management centered on the decreased precision of the discard estimates at the stock level. The ability to account for such uncertainty in some stock assessments is available.

The SBRM FMAT met several times during the May 2011 and July 2012 period to discuss various aspects of this review and to develop the recommendations. To further enhance the SBRM process, the SBRM FMAT also recommends the following: (1) refinements to the importance filter (omit the unlikely filter); (2) refinements to minimum pilot coverage; (3) integration of model-based methods for turtles to the extent possible; (4) incorporation of new fleets without Council action; (5) sea turtle monitoring needs informed by loggerhead bycatch models until models for other turtle species become available; and (6) consideration of incorporating non-federally managed species in the SBRM. There was FMAT consensus to consider the possibility of eliminating the annual report tables and use a modified version of the SBRM 3-year Review Report figures and tables (discards of species and species group by gear, for example).

Overall, the Standardized Bycatch Reporting Methodology represents one of the most comprehensive programs for planning and executing observer monitoring coverage of federally managed fisheries. The first 3 years of the program, summarized and evaluated in this report and in Part 1, illustrate the utility of the approach for monitoring discards in these fisheries and the real-world limitations of implementing an ideal system. Variations in the overall magnitude of funding, constraints on the uses of funding, and competing objectives among fishery management plans are some of the factors that impede attainment of the overall target level of precision.

LIST OF ACRONYMS AND ABBREVIATIONS

ABC = acceptable biological catch
ACCSP = Atlantic Coastal Cooperative Statistics Program
ACL = annual catch limits
ACT = annual catch targets
AM = accountability measures
ASMFC = Atlantic States Marine Fisheries Commission
CV = coefficient of variation
ESA = Endangered Species Act
F1 = unlikely filter
F3 = fraction of total discards filter
F4 = fraction of total mortality filter
Fimp = importance filter
FMP = fishery management plan
FMAT = Fishery Management Action Team
MA = Mid-Atlantic
MAFMC = Mid-Atlantic Fishery Management Council
Magnuson-Stevens Act = Magnuson-Stevens Fishery Conservation and Management Act
NE = New England
NEFMC = New England Fishery Management Council
NEFOP = Northeast Fisheries Observer Program
NEFSC = (NMFS) Northeast Fisheries Science Center
NEPA = National Environmental Policy Act
NERO = (NMFS) Northeast Regional Office
NMFS = National Marine Fisheries Service
NRCC = Northeast Regional Coordinating Council
NSG = National Standard Guidelines
OFL = overfishing limit
PDT = Plan Development Team
PTNS = Pre-Trip Notification System
SARC = Stock Assessment Review Committee
SBRM = Standardized Bycatch Reporting Methodology
SSC = Science and Statistical Committee
TED = turtle excluded device
VTR = Vessel Trip Report

BACKGROUND

SBRM Omnibus Amendment

The Standardized Bycatch Reporting Methodology (SBRM) Omnibus Amendment to the fishery management plans (FMPs) of the Northeast Region (NEFMC 2007; NMFS 2008) was implemented in February 2008 to address the requirements of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) to include standardized bycatch reporting methodology in all FMPs of the New England Fishery Management Council (NEFMC) and Mid-Atlantic Fishery Management Council (MAFMC).

The SBRM can be viewed as the combination of sampling design, data collection procedures and analyses used to estimate bycatch and allocate observer coverage in multiple fisheries. The SBRM provides a structured approach for evaluating the efficacy of the allocation of observer coverage (sea days) to multiple fisheries to monitor a large number of species under the 13 different fishery management plans, the Marine Mammal Protection Act, and the Endangered Species Act (ESA). **The SBRM is not intended to be the definitive document on the estimation methods nor is it a compendium of discard rates and total discards (**Wigley et al. 2007). Instead, the SBRM is intended to support the application of multiple bycatch estimation methods that can be used in specific stock assessments. The SBRM provides a general structure for defining fisheries into homogeneous groups and allocating observer coverage based on prior information and the expected improvement in overall performance of the program. The general structure helps identify gaps in existing coverage, similarities among groups that allow for realistic imputation, and the tradeoffs associated with coverage levels for different species. The SBRM allows for continuous improvement in allocation as new information on the results of the previous year's data is obtained.

The SBRM requires annual consultations with the Councils and public to summarize observed discard rates in the preceding year and more importantly to review and refine plans for monitoring commercial fishing fleets in the upcoming year. As part of this review the Northeast Fisheries Science Center (NEFSC) and Northeast Regional Office (NERO) prepare a large data summary report and deliver an initial report on proposed observer coverage rates. These reports, delivered at the first Council meetings in the calendar year, are followed by a comment period, and a revised observer allocation plan. A revised observer coverage plan is delivered to the Northeast Regional Coordinating Committee (NRCC) at their spring meeting. This annual cycle is synchronized with the availability of data, the annual Council meetings, and the normal federal budget and contracting cycle.

The SBRM also requires a more comprehensive 3-year review report that has two basic requirements: (1) annual estimates of discard totals, and (2) a review of the overall efficacy of the sampling design (a full description of the 3-year review report is given below). This report summarizes Part 2 of that 3-year review report requirement; Part 1 was completed April 2011 (Wigley et al. 2011).

During the preparation of this report, on September 15, 2011, the SBRM Omnibus Amendment was vacated by the U.S. District Court for the District of Columbia. The regulations implementing the SBRM were removed by the National Marine Fisheries Service (NMFS) on December 29, 2011 (NMFS 2011). The SBRM Fishery Management Action Team (FMAT) agreed to continue to complete Part 2 of the 2011 SBRM 3-year Review Report, recognizing that the analyses conducted may be useful for future SBRM amendments.

SBRM 3-year Review Report

The SBRM Omnibus Amendment specified that a review and evaluation of the Northeast Region's SBRM would be conducted every three years. Specifically, the SBRM amendment states:

> Every 3 years, the Regional Administrator and the Science and Research Director will appoint appropriate staff to work with staff appointed by the Executive Directors of the Councils to obtain and review available data on discards and to prepare a report assessing the effectiveness of the Northeast Region SBRM. This report will include, at a minimum:
>
> (1) A review of the recent levels of observer coverage in each applicable fishery;
>
> (2) a review of recent observed encounters with each species in each fishery, and a summary of observed discards by weight;
>
> (3) a review of the CV of the discard information collected for each fishery;
>
> (4) an estimate of the total discards associated with each fishery;
>
> (5) an evaluation of the effectiveness of the SBRM at meeting the performance standard for each fishery;
>
> (6) a description of the methods used to calculate the reported CVs and to determine observer coverage levels, if those methods are different from those described and evaluated in the SBRM Amendment;
>
> (7) an updated assessment of potential sources of bias in the sampling program and analyses of accuracy; and
>
> (8) an evaluation of the implications for management of the discard information collected under the SBRM, for any cases in which the evaluation performed for item 5 indicates that the performance standard is not met.
>
> (Federal Register, Vol. 73, No. 18, Monday, January 28, 2008, Page 4738)

The Northeast Regional Coordinating Council, whose membership includes the Northeast Regional Administrator, the Northeast Fisheries Science Center's Science and Research Director, and the Executive Directors of the New England Fisheries Management Council, the Mid-Atlantic Fisheries Management Council, and the Atlantic States Marine Fisheries Commission, agreed during their October 2010 meeting that the 2011 SBRM 3-year Review Report would be partitioned into two parts: Part 1 would contain the first four components (1 through 4 above) and Part 2 would contain the last four components (5 through 8 above). By partitioning the SBRM 3-year Review Report into two parts, the third annual SBRM year (2011) could be fully incorporated into the review without alternating the SBRM annual reporting cycle. This is particularly important for the analytic components (5 through 8 above) of the 2011 SBRM 3-year Review Report which require more extensive analysis to complete.

Relevant Management Regulations

There have been several recent management changes that are relevant to the SBRM. These include Amendment 10 (and proposed Amendment 14) to the Atlantic mackerel, squid, and butterfish FMP, Amendment 5 to the Atlantic Herring FMP, Amendment 16 to the Multispecies FMP and Framework 21 of the Atlantic Sea Scallop FMP. Additionally, the Magnuson-Stevens Act has been revised/reauthorized since the initial SBRM developmental work was conducted.

Atlantic mackerel, squid, and butterfish FMP: Amendment 10 (NMFS 2010) instituted a butterfish mortality cap, effective on January 1, 2011, that will require the closure of the directed

Loligo fishery if the butterfish mortality cap is attained. The butterfish mortality cap[1], equal to 75 percent of the butterfish acceptable biological catch (ABC), will account for all butterfish discards and landings caught on trips that land over 2,500 lbs (1.13 mt) of *Loligo*. The remaining 25 percent of the butterfish ABC will be allocated for butterfish catch in other fisheries, including trips landing less than 2,500 lbs of *Loligo*.

The butterfish ABC, and the resulting butterfish mortality cap, is established for each fishing year through the specifications process. A proposed rule for the 2011 Atlantic mackerel, squid, and butterfish Specifications and Management Measures was published on November 17, 2010, with a comment period ending December 17, 2010. The proposed 2011 butterfish ABC is 1,500 mt (3,306,934 lbs), and is the same as the butterfish ABC for the 2010 fishing year. The butterfish mortality cap will go into effect on January 1, 2011, using the 2010 butterfish ABC, which will be replaced by the 2011 butterfish ABC once 2011 Atlantic mackerel, squid, and butterfish Specifications are finalized. All butterfish catch on trips that land over 2,500 lbs *Loligo* after January 1, 2011, will be counted against the butterfish mortality cap.

To facilitate the placement of Northeast Fisheries Observer Program (NEFOP) observers on *Loligo* fishing trips, Amendment 10 establishes a 72-hour trip notification requirement, also effective on January 1, 2011. In order for a federally permitted *Loligo* vessel to possess 2,500 lbs or more of *Loligo*, a vessel representative must notify NMFS to request an observer at least 72 hours prior to embarking on a fishing trip. State-only permitted *Loligo* vessels fishing in State waters do not need to notify the NEFOP prior to fishing.

There are three methods available for notifying the NEFOP: (1) online via the Pre-Trip Notification System[2] (PTNS; preferred method); (2) email; or (3) telephone. If a vessel representative does not make the required trip notification to NMFS, the vessel is prohibited from possessing or landing more than 2,500 lbs of *Loligo*. If a vessel is selected to carry an observer, the vessel must carry an observer or is prohibited from landing more than 2,500 lbs *Loligo*. If a trip is cancelled, a vessel representative must notify NMFS of the cancelled trip, even if the vessel is not selected to carry an observer. If a vessel representative cancels a trip after its vessel was selected to carry an observer, that vessel will be assigned an observer on the next trip.

Implications of this management regulation to SBRM include the need to identify the directed *Loligo* fleet as a subfleet of the Mid-Atlantic (MA) small mesh otter trawl fleet, additional observer coverage needed to accommodate the subfleet (finer stratification than currently used within the SBRM), and funding support the additional at-sea coverage.

In addition to Amendment 10, the Mid-Atlantic Council is considering a variety of observer facilitation/assistance measures and mandated observer coverage levels for these fisheries in Amendment 14. Amendment 14 may also include a cap for river herring/shad in some or all of these fisheries that could operate similar to the butterfish cap above. In addition, the Council is considering designating river herring/shad as stocks in the fishery, which would mean that river herring/shad bycatch would figure directly into SBRM prioritization process.

Northeast Multispecies FMP: Amendment 16 of Northeast Multispecies FMP was implemented May 1, 2010 and provided major changes in the realm of groundfish management. Notably, it greatly expanded the sector program and implemented annual catch limits (ACL) in compliance with 2006 revisions to the Magnuson-Stevens Act. As a result of this amendment, about 95 percent of the fishery chose to operate in a form of cooperative referred to as a sector,

[1] A full description of the butterfish mortality cap methodology is available at http://www.nero.noaa.gov/nero/regs/frdoc/11/11SMB2011ButterfishSpecsRevisedCAP.pdf .
[2] The Pre-Trip Notification System is accessible at https://fish.nefsc.noaa.gov/PTNS

subject to strict limits on catch. These vessels are not subject to trip limit or days-at-sea controls. This management system drastically changed the way the fishery operates and is expected to reduce bycatch as it reduces regulatory discards. It may, however, encourage observer effects that may lead to incorrect estimates of discards. Possession of some species was prohibited to reduce catches (ocean pout, windowpane flounder, wolffish, southern New England/Mid-Atlantic winter flounder). The amendment also included a host of mortality reduction measures for "common pool" (i.e., non-sector) vessels and the recreational component of the fishery. The entire fishery (including common pool vessels) will be subject to hard quotas beginning in 2012 through the implementation of accountability measures.

Framework Adjustment 48 to the Northeast Multispecies FMP will review and may modify at-sea monitoring requirements for sector vessels. These changes could affect coverage levels for sectors, and may affect the data that are collected. The impacts on SBRM, if any, will not be known until this action is completed.

Implications of this management regulation to SBRM include the use of PTNS and the addition of compliance monitoring coverage (higher coverage than SBRM requires).

Atlantic Herring FMP: Amendment 5 to the Atlantic Herring FMP[3], currently under development, considers a range of alternatives primarily related to: (1) improving the collection of real-time, accurate catch information; (2) enhancing monitoring and sampling of herring catch at-sea; and (3) addressing river herring bycatch issues in the herring fishery. Considerations related to SBRM include management measures to address/prioritize the allocation of NMFS-approved observers for at-sea sampling on limited access herring vessels; enhance observers' ability to maximize sampling at-sea; address/minimize net slippage by limited access herring vessels; and define monitoring, avoidance, and protection alternatives to address river herring bycatch. Implementation of some of the options under consideration in the federal FMP would require bringing river herring into the SBRM framework or necessitate development of an alternative bycatch monitoring framework for this species.

Atlantic Sea Scallop FMP: The scallop fishery is subject to sub-ACLs for Georges Bank and southern New England/Mid-Atlantic yellowtail flounder. The fishery may be subject to a sub-ACL for southern New England/Mid-Atlantic windowpane flounder in the future. Since the scallop fishery discards most of the catch of these stocks, there is a need for SBRM coverage to be adequate to provide reliable estimates. This may be a concern for general category scallop trawl vessels and general category dredge vessels.

Magnuson-Stevens Fishery Conservation and Management Act: The Magnuson-Stevens Act uses the term "bycatch" to mean fish which are harvested in a fishery, but which are not sold or kept for personal use, and includes discards and regulatory discards (16 U.S.C 1802). The Magnuson-Stevens Act further requires that FMPs include conservation and management measures that, to the extent practicable and in the following priority, minimize bycatch and minimize the mortality of bycatch that cannot be avoided. National standard guidelines (NSGs) for implementing this national standard are published as 50 CFR 600.350. The NSGs note that bycatch includes fish discarded at sea or elsewhere, including economic and regulatory discards: "(1) *Inclusions.* Bycatch includes the discard of whole fish at sea or elsewhere, including economic discards and regulatory discards, and fishing mortality due to an encounter with fishing gear that does not result in capture of fish (i.e., unobserved fishing mortality)." Note that

[3] See New England Fishery Management Council's webpage for more information on Amendment 5 of the Atlantic Herring Fishery Management Plan http://www.nefmc.org/herring/index.html

the NSGs make it clear that discards of fish are considered bycatch regardless whether those discards occur at sea or elsewhere.

The statutory definition was the basis for the definition used in the NMFS report *Evaluating Bycatch: A National Approach to Standardized Bycatch Monitoring Programs* (NMFS 2004):

> Bycatch for the purposes of this report is defined as the discarded catch of any living marine resource plus unobserved mortality due to a direct encounter with fishing gear. This definition is based on the bycatch definition that appears in the 1998 National Marine Fisheries Service (NMFS) report *Managing the Nation's Bycatch* (NMFS 1998a) but it does not include retained incidental catch as a component of bycatch.

This language does not make it clear that discards are considered bycatch whether they occur at-sea or on shore.

In most cases, fish are discarded at sea and as a result the focus of bycatch estimation methodology is on accurately estimating at-sea discards (including in this SBRM). In some cases, however, catch may be landed but not sold or kept for personal use due to regulatory requirements or market conditions. Such catch may be either disposed of on land or taken back to sea and dumped on a following trip. An example occurs in the mid-water trawl herring fishery, where regulatory requirements require that haddock be landed, sorted from the catch if possible, but not sold. Additional regulatory requirements through the Northeast Multispecies FMP have implemented a mechanism to estimate total catches of haddock by this gear so that such bycatch can be monitored.

The Northeast SBRM is responsive to changes in fishing regulations. In 2008, the NEFOP expanded the collection of fish disposition codes to include "KEPT, REGULATIONS PROHIBIT DISCARD AT SEA," the fish disposition code = "172." This information could support analyses to monitor/estimate the magnitude of discards associated with this regulation. Data collection within the Northeast SBRM provides the information needed to estimate discards, kept, or total catch. No change in data collection protocols are needed to address this topic. Consideration of other situations such as trading/transferring fish at sea (e.g., skate complex) and the butterfish cap Amendment 14 to the Atlantic mackerel, squid, and butterfish FMP may be needed.

Currently, the SBRM estimates fish discarded at sea; these estimates do not include kept fish that are later discarded on land due to regulatory or economic reasons such as poor quality or low price.

INTRODUCTION

This document represents Part 2 of the 2011 SBRM 3-year Review Report and reviews the overall efficacy of the Northeast Region's SBRM. This report also includes information on discard reasons[4] associated with the estimated discards presented in Part 1 and includes recommendations relating to SBRM.

The four components associated with the Part 2 of the 2011 SBRM 3-year Review Report have been included in the following six sections[5]:

[4] During the presentation of Part 1 to the Fishery Management Councils, the need for discard reasons was raised.
[5] The section numbering used in Part 2 continues from Part 1 (Wigley et al. 2011).

Discard Reasons (Section 4): A summary of the discard reasons associated with the estimated discards in each fishery;

Effectiveness of SBRM (Section 5): An evaluation of the effectiveness of the SBRM at meeting the performance standard for each fishery;

SBRM Methods (Section 6): A description of the methods used to calculate the reported CV and to determine observer coverage level, if these methods are different than other previously used.

Accuracy Analyses (Section 7): An updated assessment of the potential sources of bias in the sampling program and analysis of accuracy;

Implications for Management (Section 8): An evaluation of the implications for management of the discard information collected under the SBRM, for any cases in which the evaluation performance in Section 5 indicated that the performance standard is not met.

Recommendations (Section 9): A summary of the recommendations relating to SBRM

The review and evaluations presented in the report are based on data summarized in SBRM annual reports for 2009, 2010, and 2011 (NEFSC 2011a, NEFSC 2011b, NEFSC 2011c) and the SBRM 3-year Review Report 2011 - Part 1 (Wigley et al. 2011). These data were collected from July 2007 through June 2010 for 61 fleets and 15 species groups and the individual species that comprise these groups (subsequently referred to as "species/species groups") to encompass all federal FMP-managed species and sea turtles in the Northeast (Table 1).

Row numbers have been assigned to each unique fleet. The data used in each of the sections of this report will vary, based on the nature/topic of the section, thus the associated fleets examined will vary. The unique fleet row numbers will facilitate cross-referencing between tables.

Fleet abbreviations used in the tables of this report are given below.

Abbreviation	**Definition**
MA	Mid-Atlantic ports (CT and southward)
NE	New England ports (RI and northward)
sm	Small mesh (less than 5.5 inches)
lg	Large mesh (5.5 to 7.99 inches)
xlg	Extra large mesh (8 inches and greater)
LIM	Limited access category
GEN	General category
OPEN	Non-access area

AA	Access area

As stated in Part 1, we use the term "bycatch" synonymously with "discard." In basic terms, bycatch is defined as living organisms that are captured by fishing gear and returned to the water. This is consistent with the definition provided in the Magnuson-Stevens Act where

> the term "bycatch" means fish which are harvested in a fishery, but which are not sold or kept for personal use, and includes economic discards and regulatory discards. Such term does not include fish released alive under a recreational catch and release fishery management program (NMFS 2007).

We do not define bycatch as the capture and retention of non-target species nor do we account for potential survival of organisms returned to the water. Most importantly, we do not base any of our analyses on the potential mortality associated with unobserved encounters with fishing gear. Our omission of these mortality sources does not confirm or deny their potential importance. Rather it explicitly recognizes that such events cannot be observed even when an observer is present on a given trip. Therefore, when using a design-based estimator, there is no basis for extrapolation of unobserved encounters to unobserved sampling units (i.e., trips).

METHODS

Discard Reasons (Section 4)

During the Council meeting discussions of the SBRM 3-year Review Report 2011 - Part 1, there was interest expressed in knowing why discarding was occurring. As mentioned above, the Magnuson-Stevens Act requires FMPs to include conservation and management measures that, to the extent practicable, minimize bycatch. Thus, it could be useful to know what portion of the discards is associated with regulatory measures. As described in the SBRM Omnibus Amendment (NEFMC 2007), fish may be discarded for a variety of reasons including regulatory and economic reasons. It is important to note that the reasons behind the discards and the measures that could be used to reduce discards are not the focus of the SBRM.

For each of the three SBRM years, species group and fleets, the fish dispositions associated with discarding (as reported by the at-sea observer) have been grouped into the following six discard reason categories: "No Market," "Regulation (size)," "Regulation (quota)," "Regulation (other)," "Poor Quality," and "Other." The fish dispositions and the discard reason categories are summarized in Appendix Table 1. The discard reasons "No Market" and "Poor Quality" would be considered economic discards and not regulatory discards.

The observed discards associated with each of six discard reason categories were summed for each species group/species, fleet, and SBRM year for the fleets where discards could be estimated. For individual fleets, the percentage of observed discards by discard reason category was derived by dividing the sum of the observed discards for each discard reason category by the sum of the total observed discards for each species group/species, fleet, and SBRM year. The extrapolated discard reason category percentages were the observed discard reason category percentages. For the "Other fleets filtered out" (an aggregated fleet that represents fleets where the variance of the discard estimate was not used in the annual SBRM sample size analysis), the observed discard reason category percentages were then multiplied by the total estimated (extrapolated) discards for each species group/species, fleet, and SBRM year to derive the estimated discards by discard reason category for each species group/species, fleet,

and SBRM year for each of the fleets associated with the aggregated fleet. For each "Other fleets filtered out," the total estimated discards by discard reason category were summed over the fleets that comprise the fleet aggregation for each species group/species and SBRM year. The extrapolated discard reason category percentage was derived by dividing the estimated discards for each discard reason category by the sum of the total estimated discards for each species group/species, fleet, and SBRM year. For each "Other fleets filtered out," the extrapolated discard reason category percentages were the observed discard reason category percentages weighted by the estimated discards in each fleet.

Effectiveness of SBRM (Section 5)

Performance Standard

The SBRM Omnibus Amendment established a performance standard for the Northeast Region. The SBRM performance standard is a 30% coefficient of variance (CV) of the total discards (NEFMC 2007). This performance standard applies to each unique fleet, species group, and SBRM year. In the report, each unique fleet, species group, and SBRM year is referred to as a cell. Each cell in the three SBRM years was classified to one of the following six SBRM performance classifications:

Not Applicable – SBRM performance was not applicable. The variance of the discard estimate was not available when fleets were not considered within the annual SBRM analysis (Box 1; Figure 1).

Unknown – SBRM performance was unknown. The variance of the discard estimate was not used due to no observer coverage (Box 2; Figure 1) or insufficient observer coverage (Boxes 3 and 4; Figure 1). This SBRM performance classification is associated with pilot fleets only. Discards cannot be reliably estimated for cells with insufficient NEFOP coverage. Designation of pilot coverage is described in Wigley et al. 2007.

Met (filtered out) – SBRM performance was met because the discard CV was less than or equal to 30% (Boxes 5 and 7b; Figure 1) and the variance of discard was not used in the annual sample size analysis due to the importance filter (cell filtered out). This SBRM performance classification is associated with non-pilot fleets only.

Not Met (filtered out) – SBRM performance was not met because the discard CV was greater than 30% (Box 7a; Figure 1) and the variance of discard was not used in the annual sample size analysis due to the importance filter (cell filtered out). This SBRM performance classification is associated with non-pilot fleets only.

Met – SBRM performance was met because the discard CV was less than or equal to 30% (Boxes 6 and 9; Figure 1) and the variance of discard was used in the annual sample size analysis. This SBRM performance classification is associated with non-pilot fleets only.

Not Met - SBRM performance was not met because the discard CV was greater than 30% CV (Box 8; Figure 1) and the variance of discard was used in the annual sample size analysis. This SBRM performance classification is associated with non-pilot fleets only.

Variance Stability and Expected CV

The SBRM uses the variance of discards from the previous year to determine the number of sea days needed in the next year. This method assumes the variance of the discard estimates are stable such that the variances can be used from one year to inform the sample size needed in the following year. It assumes the persistence of fishing behavior over time.

To investigate the stability of the discard variances, comparisons of the discard variance and comparisons of coefficient of variation of the discards were conducted for fleet and species groups between the three SBRM years. The variance and CV of the discard estimates from each SBRM year were compared across years by plotting all combinations and generating a regression line with 68% confidence ellipse using all non-pilot cells that were not filtered out through the importance filter (cells associated with "Met" and "Not Met"; Boxes 6, 8, and 9, Figure 1). A fourth root transformation was applied to the data set to accommodate zeros.

To further investigate the stability in the variances from year to year, the expected coefficient of variation of the discards resulting from using SBRM standard sea days and species group variances were examined for fleets and species groups between the three SBRM years.

For 16 non-pilot fleets (fleets with sufficient observer data to conduct a sample size analysis in at least 2 of the 3 SBRM years), the expected CV was generated using the discard variances of species groups and the SBRM standard sea days for fleets. A total of nine expected CV analyses were conducted. Three analyses were conducted where there was no lag between the SBRM standard sea days and the species group variances: the expected CV for cells using SBRM 2009 standard sea days and SBRM 2009 species group variance, SBRM 2010 standard sea days and SBRM 2010 species group variances and SBRM 2011 standard sea days and SBRM 2011 variance. Four analyses were conducted where there was a 1-year lag between the SBRM standard sea days and the species group variances: the expected CV for cells using SBRM 2010 standard sea days and SBRM 2009 species group variances, SBRM 2009 standard sea days and SBRM 2010 variances, SBRM 2011 standard sea days and SBRM 2010 species group variances, and SBRM 2010 standard sea days and SBRM 2011 species group variances. Two analyses were conducted where there was a 2-year lag between the SBRM standard sea days and the species group variances: the expected CV for cells using SBRM 2011 standard sea days using SBRM 2009 species group variances and the SBRM 2009 standard sea days and SBRM 2011 species group variances. A diagram of the analyses conducted is presented in Figure 2.

These analyses were conducted for the SBRM fish species (the sea turtles species groups were excluded from this analysis due to the suggested changes in methods for sea turtles described in Section 6 below). In these analyses, if the sea turtle species group was the species group associated with the maximum sea days for a fleet (referred to as "determining species group" throughout the remainder of this report), then the penultimate sea days were used as the SBRM sea day standard for the fleet. Of the 14 SBRM fish species groups, the expected CV could be derived for nine species groups (red crab, scallop, squid-butterfish-mackerel, monkfish, large mesh groundfish, small mesh groundfish, skate complex, spiny dogfish, and fluke-scup-black sea bass). Five species groups (bluefish, Atlantic herring, tilefish, surfclam and ocean quahogs, and Atlantic salmon) had discards that were filtered out in all fleets and SBRM years and therefore these species groups are not included in annual the SBRM sample size analyses and not included in this analysis.

The expected precision (CV) resulting from the number of sea days were derived by converting sea days into trips. The number of trips, $\hat{T}_h$ for stratum *h* is defined as:

(1) $\hat{T}_h = S_h / \overline{DA_h}$

where S_h is the number of sea days in stratum *h* and $\overline{DA_h}$ is the weighted average trip length of Vessel Trip Report (VTR) trips in stratum *h* (weighted by the number of VTR trips in each quarter).

The expected CV of $\hat{D}_j$ was based on the variance of the composite annual total discards for species group *j* in stratum *h* and the number of trips in stratum *h.*

(2) $$CV(\hat{D}_{jh}) = \sqrt{\frac{\sum_{q=1}^{4}\left(\frac{K_{qh}^2}{\bar{k}_{qh}^2}\hat{S}_{jqh}^2\frac{1}{\delta_{qh}}\right) - \hat{T}_h\left[\frac{\sum_{q=1}^{4}\left(\frac{K_{qh}^2}{\bar{k}_{qh}^2}\hat{S}_{jqh}^2\right)}{N_h}\right]}{\hat{T}_h * \hat{D}_{jh}^{\,2}}}$$

where

(3) $$\hat{S}_{jqh}^2 = \left[\frac{\sum_{i=1}^{n_{qh}}\left(d_{jiqh}^2 + \left(r_{c,jh}\right)^2 k_{iqh}^2 - 2r_{c,jh}\, d_{jiqh}k_{iqh}\right)}{n_{qh}-1}\right]$$

(4) $$\delta_{qh} = \frac{n_{qh}}{\sum_{q=1}^{4} n_{qh}}$$

(5) $$r_{c,j} = \frac{\sum_{h=1}^{Q} N_h \sum_{i=1}^{n_h} \frac{d_{jih}}{n_h}}{\sum_{h=1}^{Q} N_h \sum_{i=1}^{n_h} \frac{k_{ih}}{n_h}}$$

(6) $$\hat{D}_j = \sum_{h=1}^{Q} K_h r_{c,j}$$

where $\hat{D}_j$ is total discarded pounds for species *j*; K_h is VTR total kept pounds in stratum *h*; $r_{c,j}$ is the combined ratio of species *j*; d_{jih} is discards of species *j* from trip *i* in stratum *h*; k_{ih} is kept

pounds of all species on trip *i* in stratum *h*; N_h is the number of VTR trips in stratum *h*; n_h is the number of observed trips in stratum *h*; δ_{qh} is the fraction of the trips in quarter *q* in stratum *h*; $r_{c,jh}$ is the combined annual ratio of species *j* in stratum *h*; d_{jiqh} is discards of species *j* from trip *i* in stratum *h* in quarter *q*; k_{iqh} is kept pounds of all species on trip *i* in stratum *h* in quarter *q*; and n_{qh} is the number of observed trips in stratum *h* in quarter *q*.

In Eq. 5, the summation over strata h = 1 to Q is over calendar quarters and the other strata values are held constant. Equation 3 requires a more explicit definition of the stratum designation since the summation over quarter relies on an annual average ratio defined in Eq. 5. The $r_{c,jh}$ in Eq. 3 is defined in Eq. 5 where the summation is over quarters within a given strata defined by gear, region, access area, trip type and so forth.

The expected CVs derived using data with a lag between the SBRM standard sea days and the species group variances were compared with the expected CVs derived using data where there was no lag between the SBRM standard sea days and the species group variances.

SBRM Methods (Section 6)

The methods used during in the 2009, 2010, and 2011 SBRMs are described in Wigley et al. 2007. Only minor changes to these methods occurred over the 3-year period. These minor changes have been described in Part 1 of the 2011 SBRM 3-year Review Report (Wigley et al. 2011) and include updates to the unlikely filter for sea turtles, the addition of new fleets, and inclusion of wolffish into the large mesh groundfish species group. During this 3-year evaluation, further refinements to the methods were explored; these include modifications to the importance filter and modifications to estimating monitoring requirements for sea turtles species. The exploratory analyses to refine the current methods are described below.

Unlikely Filter

The SBRM importance filter (Fimp) is comprised of three filters that work together in combination to eliminate cells where the discards are considered unlikely (unlikely filter; F1), discards are a minor component of the total discards for that species group (fraction of discard filter; F3), or discards are a minor component of the total catch (fraction of total mortality filter; F4). A cell represents a specific species group in a specific fleet. Thus, each of the three filters is a matrix of (0, 1) where a zero indicates the sea days associated with the cell will be eliminated and 1 indicates the sea days associated with the cell will be kept. Each filter is independent of the others but applied simultaneously with Fimp = F1 * F3 * F4. An importance filter score of 1 indicates an “important” cell based on all the filters (see Wigley et al. 2007 for further details). During the 3-year evaluation, a refinement to the importance filter was considered: the need for continued use of the unlikely filter.

The rationale for the unlikely filter was to limit the amount of coverage that would be required to achieve a given level of precision for cells (fleet/species group) that are infeasible combinations (e.g., scallops in longline gear, surf clam in gillnet gear; Wigley et al. 2007). The initial determination of which cells would be considered unlikely was made by FMATs and Plan Development Teams (PDT) and was based on a review of the previous 16 years of observer data, general knowledge of gear, fish distribution, and abundance patterns. It was recognized during the development of the filters that the fishing patterns or species abundance and/or distribution may shift and the intent was that the unlikely filter would be evaluated as more data were collected.

The unlikely filter was reviewed and updated for sea turtles during SBRM 2010 due to the chain mat regulation. It was again evaluated during SBRM 2011 but the unlikely determination remained as in SBRM 2010. The unlikely filter was not evaluated for any of the SBRM fish species groups. When new fleets or species were added into the SBRM, the filter was assumed to be "likely" (F1 = 1).

The evaluation of the use of the unlikely filter for all species groups included the influence of the unlikely filter on the SBRM standard days by fleet, the interaction of the unlikely filter with pilot coverage status of the fleet, and suggested approaches for future use of the unlikely filter. As described in Wigley et al. (2007), the source of the sea days for a cell is either the number of sea days needed to achieve a 30% CV derived using the variance of the discard estimate (variance-based), the number of sea days using pilot coverage (pilot-based) of the fleet, or zero sea days if the cell was filtered out. To demonstrate the influence F1 has on the importance filter and the resultant source of the sea days at the cell level (variance-based, pilot-based, or zero) and fleet level (variance-based or pilot-based), all possible scenarios of fleet type (pilot and non-pilot fleets) and filter values for F1, F3, F4, and Fimp were summarized to determine if the SBRM standard sea days would change if the unlikely filter were removed (i.e., F1=1 for all cells).

Pilot Coverage

Pilot coverage is defined as the minimum level of coverage to acquire bycatch information with which to calculate variance estimates that in turn can be used to further define the level of sampling needed to achieve the SBRM precision standard. Pilot coverage is used when there is insufficient observer data with which to derive the number of sea days based on the variance of the discards. Based on *Evaluating Bycatch: A National Approach to Standardize Bycatch Monitoring Programs* (NMFS 2004), pilot coverage can range between 0.5 and 2%. Currently, SBRM uses 2% of the quarterly number of VTR trips, with a minimum of three trips per quarter and a maximum of 100 trips per quarter (Wigley et al. 2007) as pilot coverage. A summary of the number of trips needed to achieve a 30% CV (SBRM standard trips), the number of VTR trips, by SBRM year and fleet, were compiled to gain perspective on the 2% pilot coverage that is used in the SBRM. The SBRM standard trips were derived as part the annual sample size analyses (Section 3 of Part 1; Wigley et al. 2011). The sample size analyses were conducted using the vessel trip as the sampling unit (Eq 7; Wigley et al. 2011). Trips were then translated into days using the weighted mean trip length of trips within the fleet (Eq 8; Wigley et al. 2011). The VTR trips reported in Table 2 of Part 1 (Wigley et al. 2011) were used[6]. The percentage of SBRM standard trip to VTR trips was calculated. The species group associated with the SBRM standard trips within each fleet was also summarized. If pilot coverage was used as the source of the coverage then this was noted. In the summarization, the distinction was made between pilot coverage due to insufficient observer data ("PILOT") and pilot coverage due to all species group were filtered out within the fleet ("PILOT" in red bold font).

SBRM Methods for Sea Turtles

[6]In Tables 2 and 3 of Part 1 (Wigley et al. 2011), the pilot fleet designation should be for Row 22, not Row 23 in SBRM 2009.

The SBRM provides a structured approach for defining fisheries into homogeneous groups and allocating observer coverage based on prior information. Revised approaches might be considered for sea turtles due to the rare nature of turtle discard events.

To date, the NEFSC has estimated interactions (where interactions are synonymous with the Endangered Species Act [ESA] definitions of "takes"[7]) of loggerhead and hard-shelled turtles with fishing gear in the Mid-Atlantic (i.e., see Murray 2011, Warden 2011a, and Murray 2009a). These estimates are subsequently allocated across fisheries, where a "fishery" is defined as a managed fish or invertebrate species landed, to provide information requested by NERO for their ESA Section 7 consultations (Warden 2011b, Murray 2009b). Some model-based estimates of loggerhead interactions include a portion of those considered to be "unobservable" once a gear modification (i.e., a turtle excluder device [TED] or scallop chain mat) is used to exclude turtles (Warden and Murray 2011). The model-based estimates pool several years of data, pool across multiple fishing fleets within the same gear type, and account for gear or environmental correlates with turtle discard rates over broad spatial regions. As such they tend to have lower variance than those generated from annual ratio estimators (Orphanides 2009), because of the larger sample sizes and inclusion of environmental covariates that significantly affect estimated discard rates. While green, Kemp's ridley, and leatherback bycatch has occurred, there has been insufficient information to model total bycatch of these species. In addition, incidental captures of sea turtles have generally been rare on Georges Bank and in the Gulf of Maine, so bycatch analyses to date have been limited to the Mid-Atlantic.

An alternative approach for turtles is presented here (Murray 2012), whereby monitoring requirements are estimated for fisheries associated with estimated loggerhead bycatch (Warden 2011b, Murray 2009b, Murray 2011).

Sea days are estimated for vessels using sink gillnet, bottom otter trawl (including scallop trawl), and scallop dredge gear, the primary gear types with documented loggerhead interactions in the Mid-Atlantic. Projected amounts of observer coverage for vessels fishing gillnet or trawl gear are derived from CVs around loggerhead bycatch in specific fisheries (Warden 2011b, Murray 2009b). These CVs are used to project monitoring needs for turtles in any given year.
For dredge gear, sea day projections are derived from CVs around estimated loggerhead interactions after chain mats were required in the Mid-Atlantic (Murray 2011). CVs reported in Murray (2011) are associated with bycatch rates on trips catching sea scallops. These estimated sea days will remain in place each year until new bycatch estimates are published (currently every 5 years), and will be reassessed if there are major changes in the fishery (such as a gear modification).

The number of observed sea days needed to achieve a 30% CV around a loggerhead bycatch estimate was derived from (Rossman 2007):

$$(7)\ n_{proj} = (CV_{obs} * \sqrt{n_{obs}}/CV_{proj})^2$$

where n_{proj}= the amount of projected effort required to achieve a given precision level (converted to sea days); CV_{obs} = the precision levels around estimated bycatch as reported in Warden 2011b (trawl), Murray 2009b (gillnet), or Murray 2011 (dredge); and n_{obs}= the observed effort as reported in the above publications; and CV_{proj} = the projected precision level

[7]The ESA of 1973 defines takes as: "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

to be achieved. This yielded a desired level of sampling for trips catching each fish or invertebrate species. The maximum amount of projected coverage across all the managed species was considered the desired level of sampling to monitor turtle discards for that gear type (i.e., it serves as an umbrella for monitoring in all other fisheries). Projected effort amounts were then converted to sea days based on species specific catch information on observed hauls or VTR trips.

Potential Sources of Bias and Accuracy Analysis (Section 7)

Bias can arise if the observed trips within a stratum are not representative of the other trips within the stratum. Such bias could arise if the observed trips consistently caught more or less than unobserved trips, if the average trip durations are different, or if observed trips fish in different areas than the unobserved trips. Each of these hypotheses was tested by comparing observable properties in strata having data from trips with and without observers.

Using the NEFOP and VTR trips within the SBRM data sets (July 2007 through June 2010), the VTR trips were classified as either unobserved or observed using a midpoint matching method developed by M. Palmer of the NEFSC (Wigley et al. 2008b). For a given vessel, VTR and NEFOP observed trip were considered a match if the midpoint of either trip fell between the dates of the other trip. When a match occurred, the VTR trip was flagged as an observed trip. Due to VTR data quality limitations and differences in trip definitions between the VTR and NEFOP databases, not all NEFOP observed trips could be matched to VTR trips, thus not all VTR trips could correctly be identified as either observed or unobserved. For the analyses conducted in this section, all NEFOP observed trips were used (all hauls and sampling protocols) and the VTR trips that were identified as "unobserved" via the matching procedure were used.

The NEFOP observed trips and the VTR unobserved trips were stratified by fleet, calendar quarter, and SBRM year, respectively. For each SBRM year and species groups, the following metrics between VTR unobserved and NEFOP observed trips were compared: mean kept pounds of all species landed on the trip; differences between mean kept pounds; standard deviation of mean kept pounds; mean trip duration; differences between mean trip duration; and standard deviation of the mean trip duration. If observed and unobserved trips within a stratum measure the same underlying process, one would expect no statistical difference in the mean kept pounds (and standard deviations) between NEFOP observed trips and VTR unobserved trips. Paired t-tests of the stratum-specific means and standard deviations of kept pounds and trip duration were also conducted. The 14 species groups examined excluded two of the 15 SBRM species (sea turtles and Atlantic salmon; it is prohibited to keep these species), but included the species group "all species."

Several measures of spatial coherence were also examined. For NEFOP observed trips and VTR unobserved trips, odds ratio tests were conducted using two broad geographical areas. During the annual SBRM analyses, each NEFOP and VTR trip was assigned to a region based upon port of departure (New England [NE] represent ports from Maine to Rhode Island; MA represents ports from Connecticut southward). Each NEFOP and VTR trip (or subtrip) was also assigned to one of two broad fishing areas based upon the statistical areas reported on during the trip/subtrip. Trips fishing in Subarea 5 (statistical areas 500-562, and USA portions of 464 and 465) were assigned to NE while trips fishing in Subarea 6 (statistical areas 600-639) were assigned MA.

The numbers of NEFOP observed trips and VTR unobserved trips were summarized by gear type, access area, trip category, mesh group, area fished and region for each SBRM year. A

2x2 matrix was generated for each stratum and trip type (observed or unobserved). An example is given below; n represents the number of trips for a stratum and trip type.

	Area Fished	
Region/port of departure	Mid-Atlantic (Subarea 6)	New England (Subarea 5)
Mid-Atlantic	n_{11}	n_{12}
New England	n_{21}	n_{22}

Five major gear types (longline, otter trawl, gillnet, scallop dredge, and mid-water trawl) were examined. These gear types are associated with the non-pilot fleets in all 3 SBRM years, except for NE shrimp trawl (Row 15) which was excluded from this analysis due to observed coverage in only one region (no observed coverage in MA shrimp trawl, Row 16).

Due to the small number of trips in some fleets, the Yates's correction for continuity was applied to all cells after testing for continuity ($n_{11}n_{22} - n_{21}n_{12} > 0$) in all fleets and SBRM years for observed and unobserved trips, respectively. A small constant (0.05) was added to n_{11} and n_{22} and subtracted from n_{21} and n_{12} before the odds ratio was derived. The application of the Yates's correction was to prevent overestimation of statistical significance when sample sizes are small (Bland and Altman 2000; Sokal and Rohlf 1981). An odds ratio ($n_{11}\ n_{22}\ /\ n_{12}\ n_{21}$) was calculated using the corrected number of trips by fleet, region, area fished and SBRM year for NEFOP observed trips and VTR unobserved trips, respectively. The standard error and the 95% confident internals of the odds ratio were also calculated.

Contingency table analyses were also conducted for NEFOP observed and VTR unobserved trips by statistical area, fleet, and SBRM year to evaluate spatial coherence. In this analysis, 23 selected fleets were examined (the non-pilot fleets in all 3 years). Within a fleet and SBRM year, the expected number of NEFOP observed trips by statistical area *j* (E_{jh}) was computed as the product of the proportion of VTR unobserved trips in statistical area *j* and fleet (V_{jh}) and the number of NEFOP observed trips in the stratum n_h. Thus, $E_{jh} = V_{jh} * n_h$. These expectations were then compared to the actual frequencies (O_{jh}) of NEFOP observed trips by statistical area.

To further evaluate the spatial coherence between NEFOP observed trips and VTR unobserved trips, the percentages of total kept pounds of all species by statistical area were compared. In this analysis, six major gear types were examined (longline, shrimp trawl, otter trawl, gillnet, scallop dredge, and mid-water trawl). Twelve grouped fleets were formed by gear type, access area, trip category, and mesh size (omitting region in the stratification). Total kept pounds were summed by statistical area, grouped fleet, and SBRM year for NEFOP observed trips and VTR unobserved trips, respectively. The percentages of total kept pounds were derived by statistical area, grouped fleet, and SBRM year for NEFOP observed trips and VTR unobserved trips, respectively. The percentages of the total kept pounds from unobserved and observed trips by statistical area, grouped fleet and SBRM year were then plotted and 68% confidence ellipses were derived for observed and unobserved trips, respectively.

Additionally, the percentages of total kept pounds from VTR unobserved trips were summed for statistical areas that were not sampled by NEFOP observed trips (e.g., statistical areas where the percentages of total kept pounds from NEFOP observed trips equaled zero). The

percentages of total kept pounds from unobserved statistical areas were then summarized by grouped fleet and SBRM year.

Finally, the unobserved and observed cumulative percentages of the number of trips were compared by ten-minute squares of latitude and longitude. NEFOP observed trips and VTR unobserved trips were partitioned into subtrips based upon statistical area, grouped by fleet and SBRM year. Almost all observed subtrips had an associated point location; the start and end locations of each haul are collected as part of the NEFOP data collection protocols. This analysis used the recorded point locations of the start of each haul. Multiple hauls can occur in a single statistical area resulting in several points per observed subtrip. To derive a single point for each observed subtrip, the Mean Center ArcGIS© (ESRI, Redlands, CA) tool was used to identify the geographic center of hauls by subtrip. According to the VTR data collection protocols, a single point location, representing the location where most of the fishing effort occurred, is required for each VTR subtrip. However, not all VTR unobserved subtrips contained a point location. This analysis used only the VTR unobserved subtrips with an associated point location. Grouped fleets were selected for this spatial distribution analysis if at least 70% of the total VTR unobserved subtrips had an associated point location, which was the case for 8 grouped fleets representing the following16 fleets: longline (Rows 1 and 2), small mesh otter trawl (Rows 5 and 7), large mesh otter trawl (Rows 6 and 8), small mesh gillnet (Rows 19 and 22), large mesh gillnet (Rows 20 and 23), extra large mesh gillnet (Rows 21 and 24), GEN AA scallop dredge (Rows 27 and 28), and LIM AA scallop dredge (Rows 29 and 30).

For each grouped fleet and SBRM year, observed and unobserved subtrips were binned into ten-minute squares of latitude and longitude and the sum of subtrips for each square was determined. The squares were then sorted in descending order based upon their percent contribution to the total number of subtrips and the cumulative percent associated with each square was determined. Each square was then classified into one of four groups based upon whether it contributed to the lower 50^{th}, 75^{th}, 90^{th}, or 100^{th} cumulative percentile of total number of subtrips. Thus, the squares in the 50^{th} percentile group represent those squares where the most subtrips occurred (i.e., 50% of all subtrips occurred in the squares classified in the 50^{th} percentile group). Squares with the smallest percent contribution to the total number of subtrips are in the 100^{th} percentile group. The distributions of observed and unobserved subtrips were plotted using ArcGIS© (ESRI, Redlands, CA) by grouped fleet and SBRM year.

RESULTS

Discard Reasons (Section 4)

Fish/Invertebrates

Appendix Tables 2A and 2B summarize the percentage of estimated discards associated with each of the six discard reason categories for the corresponding fleets and species presented in Tables 9A-9B and Figures 6A-6B in the SBRM 3-year Review Report 2011- Part 1 (Wigley et al. 2011). In each SBRM year, the majority (approximately 80%) of the 14 SBRM species groups discards (by weight) were attributed to “No Market,” approximately 15% of the discards were associated with “Regulations” (representing the three regulation sub-categories of size, quota, and other), and the remaining 5% was split between “Poor Quality” and “Other” discard reasons.

The reasons for discarding varied by species group, and patterns of discard reasons persisted over years. The majority of discards are associated with “No Market.” For some species

like bluefish, red crab, scallop, skate complex, surfclam and ocean quahog, squid-butterfish-mackerel, "No Market" was the dominant reason given, while for other species like fluke-scup-black sea bass, large mesh groundfish, monkfish, small mesh groundfish, spiny dogfish, and tilefish "No Market" and "Regulation" were the dominant reasons given and varied by fleet. The dominant reason for Atlantic herring was "No Market" or "Other" and varied between years.

Sea Turtles

Regulations prohibit the possession of all sea turtles, thus discard reasons associated with sea turtles interactions have not been summarized.

Previously Reported Information

Percentage of observed discards, by four discard reason categories, by SBRM species group and individual species can be found in Section 1 of the Annual Discard Reports for 2009, 2010, and 2011 (Appendix Tables 1A and 1B in NEFSC 2011a, NEFSC 2011b, and NEFSC 2011c).

Effectiveness of SBRM (Section 5)

Performance Standard

The six SBRM performance classifications ("Not Applicable," "Unknown," "Met [filtered out]," "Not Met [filtered out]," "Met," and "Not Met") and the characteristics of the cells associated with each performance classification are depicted in Figure 1. When considering fleets across all three SBRM years, there is a total of 780 cells for each SBRM year (52 fleets x 15 species groups). The number of cells by SBRM performance classification and SBRM year is presented in Table 2 and the number of cells by SBRM performance classification, species group, and SBRM year is presented in Table 3. The SBRM performance classification ("Unknown," "Met," "Not Met") for each cell by species group, fleet, and SBRM year is given in Table 4, and by fleet, species group, and SBRM year in Table 5.

The cells that did not meet the SBRM performance standard are listed, by SBRM year, fleet, and species groups, in Appendix Table 3. The cells where the SBRM performance standard was unknown are listed, by SBRM year and fleet, in Appendix Table 4.

There are 120 cells (8 fleets x 15 species groups) in SBRM 2009 and 15 cells (1 fleet x 15 species group) in SBRM 2010 that are "Not Applicable" (Table 2). As stated previously, these fleets were not considered in the annual SBRM analysis (Wigley et al. 2011).

Cells associated with pilot coverage and the SBRM performance classification of "Unknown" were considered separately from the cells with sufficient data (non-pilot cells). There were 330, 434, and 449 cells in 2009, 2010, and 2011 respectively (Table 2) with "Unknown" performance classification across all species groups and fleets. Most of the "Unknown" cells were associated with the 27 pilot fleets (fleets with no or insufficient observer coverage in all years; Table 2 in Wigley et al. 2011; Rows 1, 3, 9, 10, 11, 12, 15, 17, 18, 22, 25, 35, 37, 38, 39, 40, 41, 43, 44, 45, 46, 47, 48, 49, 50, 51, and 52) where all species groups within these fleets were "Unknown" (Tables 4 and 5). The rest of the "Unknown" cells were associated with the six fleets (Rows 4, 13, 19, 20, 27, and 28) that were pilot in one of the three SBRM years. For each fish species group, there were 22, 29, and 30 unknown cells in SBRM 2009, 2010, and 2011 respectively (Table 3), corresponding the number of pilot fleets in each SBRM year. Due to the sampling protocols within the NEFOP, there are differences in the datasets used between species groups for fish and sea turtles (Row 20 in SBRM 2010 and Row 19 in SBRM

2011; Table 5 and Appendix Table 4). Number of unknown cells for the sea turtle group in SBRM 2009, 2010, and 2011 is 22, 28, and 29 respectively (Table 3).

Cells with the SBRM performance classification of "Met" (filtered out) and "Not Met" (filtered out), Boxes 5, 7a, and 7b (Figure 1), respectively, were excluded from the set of cells used in the evaluation of effectiveness. The filtered out cells represent fleets and species groups where discards are considered a minor component of total catch and were not used in the annual sample size analyses to determine coverage for the subsequent year. The total number of cells removed due to the importance filter in SBRM 2009, 2010, and 2011 were 274 (157+117), 284 (176+108), 282 (166+116), respectively (Table 2).

In the evaluation of effectiveness, only the cells used in the annual sample size analysis (cells associated with Boxes 6, 8, and 9; Figure 1) were considered. The numbers of cells considered in the evaluation are: 56 (35+ 21), 47 (28+19), and 49 (34+15) in SBRM 2009, 2010, and 2011, respectively (Table 2). On an annual basis, the percentages of cells that met the SBRM performance standard in SBRM 2009, 2010, and 2011 were 63% [(35 / (35+ 21)], 60% [28 / (28+19)], and 69% [34 / (34+15)], respectively (Table 2). Across SBRM years, the percentages of cells that met the SBRM performance standard in SBRM 2009, 2010, and 2011 vary by species group and fleet (Tables 3, 4, and 5).

The annual SBRM performance classifications for cells in the analysis were summarized by species grouped using the following three categories: (1) "Not Met," (2) "Met," or (3) "Met" and "Not Met." There were five species groups (Atlantic salmon, bluefish, Atlantic herring, surfclam and ocean quahog, and tilefish) without any cells classified as "Met" or "Not Met" (Tables 3 and 4). There were two species groups (squid-butterfish-mackerel and red crab) where the performance classifications were all "Not Met" (no cells with a performance classification of "Met," Tables 3 and 4). For squid-butterfish-mackerel, 100% of cells (4 cells; two fleets) did not meet the SBRM performance standard (Tables 3 and 4). The SBRM performance standard for squid-butterfish-mackerel was not met in NE small mesh otter trawl (Row 7) in SBRM 2009 and SBRM 2011 and in MA small mesh otter trawl (Row 5) in SBRM 2010 and SBRM 2011 (Table 4). For red crab, 100% of cells (1 cell in one fleet) did not meet the SBRM performance standard (Tables 3 and 4). The SBRM performance standard was not met in NE large mesh otter trawl (Row 8) in SBRM 2011 (Table 4). There was one species group (scallops) where all the performance classifications were "Met" (no cells with a performance classification of "Not Met," Tables 3 and 4). Over all years, 100% of the cells (2 cells) met the SBRM performance standard for sea scallops. The SBRM performance standard for sea scallop was met in NE LIM OPEN scallop dredge (Row 34) in SBRM 2010 and SBRM 2011 (Table 4). There are seven species groups (fluke-scup-black sea bass, large mesh groundfish, monkfish, skate complex, small mesh groundfish, spiny dogfish, and sea turtles) where the performance classifications were a mix of "Met" or "Not Met" (Tables 3 and 4). Over all years, for fluke-scup-black sea bass, 71% [12/(12+5)] of the cells met the SBRM performance standard. For large mesh groundfish, 79% [11/(11+3)] of the cells met the SBRM performance standard. For monkfish, 86% [19/(19+3)] of the cells met the SBRM performance standard. For skate complex 76% [19/(19+6)] of the cells met the SBRM performance standard. For small mesh groundfish, 38% [5/(5+8)] of the cells met the SBRM performance standard. For spiny dogfish, 63% [19/(19+11)] of the cells met the SBRM performance standard. For turtles, 42% [10/(10+14)] of the cells met the SBRM performance standard.

Summarizing the annual SBRM performance classifications by fleets, the same three categories were used. Of the 52 fleets, 27 fleets were excluded due to all cells being "Unknown"

and five fleets (Rows 4, 13, 14, 27, and 28) were excluded due all cells classified as "Unknown" or filtered out (Table 5). There were two fleets where the performance classifications were "Not Met" for all cells used in the annual sample size analysis (species groups where the performance standard was "Not Met" in at least one year are given in parentheses): MA small mesh gillnet, Row 19 (sea turtles) and NE GEN OPEN scallop dredge, Row 32 (skate complex). There were eight fleets (Rows 16, 23, 24, 26, 29, 30, 34, and 42) where the performance classification was "Met" for all cells. There were 10 fleets where the performance classifications were a mix of "Met" or "Not Met" (species groups where the performance standard was "Not Met" in at least one year are given in parentheses): NE longline, Row 2 (spiny dogfish); MA small mesh otter trawl, Row 5 (fluke-scup-black sea bass, monkfish, skate complex, small mesh groundfish, spiny dogfish, squid-butterfish-mackerel, and sea turtles); MA large mesh otter trawl, Row 6 (fluke-scup-black sea bass, large mesh groundfish, small mesh groundfish, spiny dogfish, and sea turtles); NE small mesh otter trawl, Row 7 (fluke-scup-black sea bass, large mesh groundfish, skate complex, small mesh groundfish, spiny dogfish, squid-butterfish-mackerel, and sea turtles); NE large mesh otter trawl, Row 8 (red crab); MA large mesh gillnet, Row 20 (spiny dogfish and sea turtles), MA extra large mesh gillnet, Row 21 (monkfish, spiny dogfish, and sea turtles); MA GEN OPEN scallop dredge, Row 31 (monkfish and skate complex); MA LIM OPEN scallop dredge, Row 33 (large mesh groundfish and sea turtles); and NE mid-water trawl, Row 36 (small mesh groundfish and spiny dogfish).

Appendix Table 3 lists the cells, by SBRM year and species group, where the performance standard was "Not Met" and Appendix Table 4 lists the fleets where the performance standard was "Unknown." Consequences to management are discussed in Implications for Management (Section 8).

Variance Stability and Expected CV

The comparison of discard variances and comparisons of discard CV revealed a relatively strong relationship between SBRM years indicating that the assumption of similar variance across years holds and that the influence of the magnitude of discards is relatively constant as well (Figure 3). Confidence/prediction ellipses were stronger for the SBRM 2009 and SBRM 2010 comparison and the SBRM 2010 and SBRM 2011 comparison indicating that the variances and CVs are more similar with a one-year difference than with a two-year difference (the SBRM 2009 and SBRM 2011 comparison).

The SBRM standard sea days (modified to represent 14 species group, excluding turtles) used in the nine expected CV analyses are presented in Table 6. When no lag between the SBRM standard sea days and the species group discard variances were used (e.g., 2009 sea days and 2009 variances), then, as anticipated, the expected CV for all species groups in the analysis were less than or equal to 30% CV for SBRM 2009, SBRM 2010, and SBRM 2011 (Tables 7, 8, and 9). These expected CVs formed the basis to compare the expected CV resulting from using sea days and variances that have been lagged one or two years (Tables 10 through 15).

The greatest difference in the expected CVs using the 2009 variances was for monkfish in MA OPEN GEN scallop dredge fleet (Row 31). The expected CV increased from 30% CV to 56% CV using 2010 sea days (Table 10) and to 59% CV using 2011 sea days (Table 14). The greatest difference in the expected CVs using the 2010 variances was for the small mesh groundfish species group in the MA large mesh otter trawl fleet (Row 6). The expected CV increased from 30% CV to a 60% CV using 2009 sea days (Table 11) and to 123% CV using 2011 sea days (Table 12). The greatest differences in the expected CV using the 2011 variances

was for red crab in the NE large mesh otter trawl fleet (Row 8) and for fluke-scup-black sea bass species group in the NE OPEN LIM scallop dredge fleet (Row 34). For red crab, the expected CV increase from 30% CV to 99% CV using 2010 sea days (Table 13) and for fluke-scup-black sea bass, increased from 30% CV to 49% CV (Table 15).

It is important to note that the number of sea days for the 14 species groups varies by SBRM year within a given fleet (Table 6). The variability may be due to either the changes in fishing patterns or changes in the determining species group for that year (species filtered out or not) or a combination of any one of these changes.

SBRM Methods (Section 6)

Unlikely Filter

As shown in Figure 4, the value of the importance filter for the cell and the pilot status of the fleet determine the source of the sea days for the cell (fleet/species group) and for the SBRM standard sea days for the fleet. For pilot fleets, the unlikely filter is the sole determinant of whether the cell will have pilot-based sea days (if F1=1, "likely"), or zero sea days (if F1=0, "unlikely") because the F3 and F4 filter values are set to 1 since little or no data are available to derive these filters. However, at the fleet level, the SBRM standard sea days will always be pilot-based for pilot fleets, regardless of the unlikely filter value of each cell (Figure 4). As described in Wigley et al. (2007), the SBRM standard sea days for a fleet are determined by the species group with the maximum sea days within that fleet provided the sea days are greater than zero. Otherwise, the default SBRM standard sea days for that fleet will be pilot-based sea days. For non-pilot fleets, all three filters (F1, F3 and F4) contribute in the determination of the importance filter value of each cell. The Fimp = 0 occurs when any one of the three filters equals zero and Fimp = 1 occurs only when all three of the filter filters equal 1. When Fimp=1, the cell will not be filtered out and will have variance-based SBRM standard sea days. When Fimp=0, the cell will be filtered out and will have zero sea days. At the fleet level, SBRM standard sea days for non-pilot fleets will either be variance-based sea days if Fimp=1 (determined by the maximum sea days across all species groups within that fleet) or pilot-based sea days if Fimp=0.

All possible scenarios of the filter cell values, the resultant importance filter value, and the associated source of sea days for the cell (variance-based, pilot-based, or zero) and the fleet (variance-based or pilot-based) are given in Tables 16 and 17 for pilot and non-pilot fleets, respectively. When the unlikely filter was removed (i.e., F1=1 for all cells), any change in the outcome for the sea days were indicated with red bold font.

For pilot fleets, if F1 values were set to 1 for all cells, sea days would go from 0 to pilot days at the cell level in pilot fleets that currently have F1=0. As discussed above, the value of F1 has no impact on the determination of SBRM standard sea days at the fleet level for pilot fleets (Figure 4). Because some coverage is required for all fleets, when all cells have been filtered out, pilot-based sea days are used (Table 16; Figure 4).

For non-pilot fleets, the unlikely filter has no impact on the determination of SBRM standard sea days when F3 and/or F4 are also equal to 0 (Cases A, B, C, E, F, and G in Table 17; Figure 4). If the unlikely filter was removed (F1 = 1 for all cells), the impact at the cell level would occur when F3 = F4 = 1 (Case H in Table 17; Figure 4), where the sea days for the cell would go from 0 to variance-based sea days. This might have an impact on the SBRM standard sea days at the fleet level if the maximum sea days within the fleet changed (e.g., a different species group had the maximum sea days). It is important to note that Cases B, C, and D, where F1 = 0 but F3 =1 and/or F4 = 1, would indicate an inaccurate setting of the unlikely filter, since it

would consider the fleet-species group cell as unlikely, whereas the F3 and F4 filters would indicate that the cell represented a significant fraction of discards and/or total mortality for that species group in that fleet.

Based on a review of the 2009, 2010, and 2011 SBRM, no changes to the final determination of the SBRM standard sea days for these three years would have occurred if the unlikely filter had been removed from the importance filter (i.e., F1 = 1 for all cells).

Pilot Coverage

The number of SBRM standard trips, the number of VTR trips, the percentage of SBRM standard trips to total VTR trips, and the species group associated with SBRM standard trips are presented in Table 18 for each SBRM year and fleet. Over half the SBRM fleets are designated as fleets in need of pilot coverage due to insufficient observer data. There are 22 out of 44 fleets (50%) in SBRM 2009, 29 out of 51 fleets (57%) in SBRM 2010, and 30 out of 52 fleets (58%) in SBRM 2011 (Table 2 in Wigley et al. 2011; Table 18). There are 27 fleets with pilot coverage in all years (including fleets that were added in 2010), 6 fleets that changed between pilot and non-pilot, and 19 fleets with sufficient coverage (note: correction in 2009). The pilot fleets contributed 11%, 23%, and 10% of the total number of SBRM standard trips needed in SBRM 2009, 2010, and 2011, respectively.

Over all fleets, SBRM standard trips represent between 5% and 9% of the total number of VTR trips (Table 18); however, percentages vary considerably by gear type and region. For pilot fleets, percentages vary depending of the number of VTR trips. In general, 2% of trips were required, except for fleets with small numbers of the VTR trips. In these cases, the percentages were far greater than 2% due to quarterly minimum trips. The other exception to the 2% pilot coverage occurs in a few cases when the percentage exceeded 100% due to reporting issues (see Discussion in Part 1; Wigley et al. 2011). For non-pilot fleets, the percentage of SBRM standard trips to the VTR trips ranged between 1% and 57% across all years and fleets. For non-pilot fleets, it is difficult to discern patterns between or among fleets. The MA otter trawl fleets required 13% to 25% trips to be observed and sea turtles was the determining species group in 5 of the 6 fleets over the three years (Table 18). The NE otter trawl fleets required between 3% and 51% of trips and fluke-scup-black sea bass and small mesh groundfish were the determining species groups except in 2011 when sea turtles and red crabs were the determining species groups (Table 18).

There was general stability in the percentages when the determining species group was the same over all three SBRM years (Rows 5, 24, and 30; Table 18). This summary also reveals that the determining species for NE mid-water trawl fleet (Row 36) was spiny dogfish and small mesh groundfish (not large mesh groundfish or Atlantic herring).

Pilot coverage was used in the sample size analyses to maintain coverage 17 times during the 3-year period (one occurrence in NE longline [Row 2], Ruhle trawl [Row 13, new fleet], haddock separator trawl [Row 14, new fleet], NE shrimp trawl [Row 16], MA small mesh gillnet [Row 19], MA AA LIM scallop dredge [Row 29], and NE GEN OPEN scallop dredge [Row 32] and two occurrences in NE handline (Row 4), MA purse seine (Row 26), MA GEN AA scallop dredge [Row 27], NE GEN AA scallop dredge [Row 28], and NE hagfish pot [Row 42]). A refinement to the use of pilot coverage to maintain coverage is given in the Recommendations (Section 9).

SBRM Methods for Sea Turtles

Table 19 reports the estimated amount of sea days in the Mid-Atlantic needed to monitor loggerhead interactions based on historic interactions in the fisheries. Roughly 4,800 days are needed across bottom trawl fisheries, based on estimated bycatch precision levels for trips catching Northeast multispecies. Roughly 1,400 days are needed across sink gillnet fisheries, based on estimated bycatch precision levels for trips catching spot. Lastly, ~1,300 days are needed in the scallop dredge fishery, based on loggerhead bycatch precision levels after chain mats were implemented in the fishery.

Potential Sources of Bias and Accuracy Analyses (Section 7)

In general, the mean kept pounds by species group for observed and unobserved trips compared favorably and followed an expected linear relationship, and these patterns persisted across SBRM years (Figure 5). Two species groups (red crab and surfclams–ocean quahogs) could not be evaluated due to insufficient observer data of crab pots and clam dredges (Rows 46, 47, 51, and 52 in Table 2 in Wigley et al. 2011) that target these two species groups. The other gear types that were observed land only very small quantities of these species, if any, given the limited access of these two FMPs. Two species groups, large mesh groundfish and monkfish, exhibited a relationship where observed mean kept pounds per trip were slightly higher than unobserved trips while two species, bluefish and small mesh groundfish, exhibited a relationship where unobserved mean kept pounds per trip were slightly higher than observed trips (Figure 5). An examination of the distribution of differences in mean kept pounds by species group between unobserved and observed trips (Figure 6) and the standard deviation of mean kept pounds by species group between unobserved and observed trips (Figure 7) revealed no evidence of systematic bias and there was general symmetry in the pattern of positive and negative differences and these patterns persisted across SBRM years. An exception to the general symmetry in pattern of differences occurs for the mean kept pounds and standard deviation of mean kept pounds of large mesh groundfish in a few fleets (Figures 6 and 7).

Statistical comparisons of difference in mean kept pounds and standard deviation error of mean kept pounds between unobserved and observed VTR trips, by SBRM species group and SBRM year are presented in Table 20. The mean differences in species pounds were generally small relative to total trip pounds and for most species groups, the paired t-tests of stratum-specific mean kept pounds revealed no statistical significant differences in mean kept pounds between unobserved and observed trips. Of the 14 species groups examined, four species groups in 2009 (large mesh groundfish, monkfish, skate complex, and small mesh groundfish), two species groups in 2010 (large mesh groundfish and monkfish) and one species group in 2011(large mesh groundfish) had statistically significant differences, however in all cases the differences in mean kept pounds were less than 505 pounds, a relatively small amount for this species group.

A strong relationship was evident in mean trip duration between unobserved and observed trips (Figure 8). The differences in mean and standard deviation of trip durations revealed a slight skewing of the differences in the mean trip duration between unobserved and observed trips, with observed trips being slightly longer by roughly 6 to 12 hours (Table 21; Figures 8 and 9). The paired t-tests of stratum-specific differences in the mean and standard deviation of trip duration revealed significant differences in 2010 and 2011.

Results of the odds ratio analyses to evaluate broad-scale spatial coherence are presented in Table 22. In this analysis, the odds ratio indicates the strength of the relationship between area

fished and region of departure for 22 fleets (NE shrimp trawl [Row 15] was not included due to no MA shrimp trawl [Row 16] coverage). Across all years, the odds ratio results indicate a strong relationship between area fished and region of departure. Although some fleets had very few observed trips in some or all years (e.g., MA longline and small mesh gillnet), the unobserved trips indicate fidelity with odds ratio much greater than 1. For a few fleets, the confidence interval of the odds ratios did include 1 (an odds ratio of one indicate there is no relationship). These fleets include mid-water trawl in 2009 and 2010 and the GEN and LIM AA scallop dredge fleets in 2011. There were several fleets for which an odds ratio could not be derived (denoted by N/A) due to small sample size and/or lack of trips in some cells.

Summaries of contingency table analyses of spatial distributions of unobserved and observed trips by fleet and SBRM year for the 23 fleets examined suggest statistically significant differences in spatial patterns between observed and unobserved trips across all years (Table 23). Only 5 fleets in 2009 and 2010 and 2 fleets in 2011 had similar spatial distributions of trips between observed and unobserved trips (a nonsignificant value indicates similar distributions).

Percentage of total kept pounds, by statistical area, grouped fleet, and SBRM year for observed and unobserved trips are presented in Figure 10. When a point is on or near the identity line, there is spatial coherence, in terms of percentage of total kept pounds, between the observed and unobserved trips for that statistical area within a grouped fleet, and SBRM year. The shape of the 68% confidence ellipse indicates the strength of the relationship between the percentages of total kept pounds of the observed and unobserved trips for all statistical areas within a grouped fleet and SBRM year. The confidence ellipses were generally centered on the identity line, indicating no systematic bias for gillnet, scallop dredge, and mid-water trawl fleets. For longline (Rows 1 and 2) and otter trawl (Rows 6 and 8), the confidence ellipses were centered above the identity line indicating higher percentages of observed landings percentages than percentages of unobserved landings for some statistical areas. In particular, higher observed percentages occurred in statistical area 521 for longline fleets in all years and in statistical area 522 for otter trawl fleets in all years (Figure 10). The confidence ellipses varied by year for the general category access area scallop dredge (Rows 27 and 28). In SBRM 2011, the confidence interval was lower than the identity line indicating lower percentages of observed landings than unobserved trips, particularly for statistical areas in the Mid-Atlantic region (Figure 10). The small sample size (5 observed trips; Table 2 in Wigley et al. 2011) in Row 27 and the lack of any observed trips in Row 28 are contributing factors to the lack of spatial coherence in this case. When the otter trawl fleets (Rows 6 and 8) were partitioned by region, the patterns for the MA are revealed. The differential deployment of observers (e.g., lack of observer coverage in the Mid-Atlantic due to funding constraints and increased observer coverage in the New England to support compliance monitor of the US/Canada special access programs) are clearly evident (Figure 10).

The percentages of total kept pounds of VTR unobserved trips for statistical areas that were not sampled by NEFOP observed trips, are presented in Table 24, by grouped fleet and SBRM year. The majority of grouped fleets, across all years, had low percentages of kept pounds associated with statistical areas that were not sampled by observed trips. Of the 12 grouped fleets, 8 fleets in 2009 and 2011 and 9 fleets in 2010 had less than 10% of the total kept pounds from VTR unobserved trips for statistical areas that were not sampled by observed trips. All other fleets, except two (longline in 2010 and 2011) had percentages less than 25% indicating that observed trips in these grouped fleets occurred in statistical areas where the majority of kept pounds occurred for VTR unobserved trips. Given that there was a total of 3 trips in the MA

longline fleet (Row 1, Table 2 in Wigley et al. 2011), it is not surprising that there is a lack of spatial coherence in the longline grouped fleet. These results indicate that there is generally good spatial coherence between observed and unobserved trips on an annual basis at the grouped fleet and statistical area stratification.

Examining spatial patterns at a finer scale, the distribution of observed and unobserved subtrips for 8 grouped fleets by ten-minute squares of latitude and longitude and SBRM year are presented in Figure 11. The distribution plots indicate areas (i.e., ten-minute squares) where high (large red circles) and low (small red circles) numbers of observed subtrips occur while showing areas where high (dark blue squares) and low (light blue squares) numbers of unobserved VTR subtrips occur. Overall, there is good overlap between the patterns of observed and unobserved subtrip distribution, where areas (i.e., 10' squares) with high numbers of observed subtrips (large red circles) correspond to areas with high numbers of unobserved subtrips (dark blue squares) and areas with low numbers of observed subtrips (small red circles) correspond to areas with low numbers of unobserved subtrips (light blue squares).

Some differences between observed and unobserved subtrip distributions were evident in some cases. There were a few examples where observed subtrips existed in areas where no unobserved subtrips occurred. This was the case in some areas of the Gulf of Maine particularly for longline in SBRM 2011, small mesh otter trawl in SBRM 2010, and large and extra large mesh gillnet, where some isolated observed trips occurred. There were also some cases where observed subtrip activity was absent in localized areas but the overlap between observed and unobserved subtrip distributions was otherwise good. This is evident along the coast of Maine for longline for SBRM 2010, and in the Delmarva access area for the scallop dredge grouped fleets.

DISCUSSION

Discard Reasons (Section 4)

When considering mechanisms to reduce discard, it may be useful to know why discarding is occurring. Fish may be discarded for economic reasons (e.g., no market or poor quality) or for regulatory reasons (size, quota, or other). It is important to note that large discard reason percentage may be associated with a small quantity of discard. Additionally, it is important to note that for many species, the discards are associated with fleets that have been filtered out by the importance filter.

It should also be noted that the observer classifies the discards by fish disposition based upon NEFOP protocols (Northeast Fisheries Observer Program, 2010) where the observer asks the captain/crew why species are being discarded. Thus, these data should be considered a form of self-reported data and as such these data are difficult to verify and should be interpreted cautiously. Additionally, the NEFOP protocols for collecting discard reasons recognized that more than one discard reason could apply to a particular subset of discards. Information on discard reason is available within the NEFOP data base to support further analysis needed by PDTs or Take Reduction Teams.

Effectiveness of SBRM (Section 5)

Performance Standard

The SBRM is designed to allow for a feedback process to occur, such that if there is uncertainty about a discard estimate (not filtered out) of a given species group within a fleet then more sea days are required to monitor the fleet. The effectiveness of the SBRM at meeting the performance standard is not only dependent upon the assumption of variance stability from one year to the next, but on other factors including the overall magnitude of the funding, constraints on the use of these funds and the competing objectives among the various FMPs. In all three SBRM years, a shortfall in funding existed. Thus, not all fleets have been allocated the number of sea days needed to achieve the performance standard. Fleets with pilot coverage designation have generally remained "pilot" fleets and consequently have an "Unknown" performance classification due to insufficient funds, funding constraints, and regional priorities. Although many of the pilot fleets are fleets associated with "selective gears" and have a specific target species for which incidental catch of other SBRM species is not likely, such as clam dredge, hagfish pot, etc., the performance standard cannot be evaluated for these fleets. There is a general indication that discarding within these fleets is minimal; however, maintaining minimum pilot coverage (3 trips per quarter) would be one way to provide information such that at-sea coverage of *all* fleets could be evaluated relative to the performance standard and the feedback process within the SBRM could be evaluated.

When considering the SBRM performance standard, it is important to examine only those fleets and species groups that are non-pilot and not filtered (important) cells in the evaluation. By doing so, the relative magnitude of the discard to total catch is factored into the evaluation since this is factored into the number of sea days required.

Given the regional priorities, in conjunction with groundfish compliance monitoring, funding has been directed towards non-selective gear types (otter trawl, gillnets) with known non-targeted catch.

Variance Stability and Expected CV

Evidence suggests the assumption that discard variances are stable over time is valid, particularly for a one-year lag. If fishing behavior changes due to regulatory change, then relationship between years may weaken in the year following the regulatory change. A similar weakening in the relationship may occur when fish populations change – strong year class moving through the fishery. These types of analyses should be conducted on a periodic basis.

SBRM Methods (Section 6)

Unlikely Filter

This is the first evaluation of the use of the unlikely filter for all species since it was established for the SBRM Omnibus Amendment. Since SBRM 2009, the unlikely filter has been set to a default of F1 "likely" (F1= 1) for all new fleets and new species (added in SBRM 2010 and SBRM 2011). For pilot fleets, the unlikely filter has no impact on the final determination of SBRM standard sea days at the fleet level. In non-pilot fleets, the unlikely filter influences the species group with the maximum number of sea days within a fleet, which will determine the SBRM standard sea days at the fleet level. Cases where F1 = 0 but F3 = 1 and/or F4 = 1 should not occur and results could be screened to prevent this from happening. Specifically, in cases where F3 = F4 = 1, Fimp would be re-set to Fimp=1.

Given the results of this evaluation, there are two suggested options to pursue: (1) eliminate the unlikely filter (set F1 = 1 for all cells; preferred option); (2) continue to use the unlikely filter and update the filter on a routine basis to account for more recent observer data, additional species groups/species, and new fleets. This option would require determination of the frequency of the unlikely filter update and the process by which the unlikely filter would be updated (by a quantitative process for fleets with data and by "expert knowledge" of all FMP PDT/FMAT members for fleets with little or no coverage). If a quantitative process is used, then criteria (e.g., a cut-point) would need to be defined to classify unlikely versus likely cells. For example, the entire NEFOP data set could be reviewed by mapping every haul to its corresponding SBRM fleet, using the most current fleet definition. For each SBRM fleet, one could count the number of hauls and sum the hail weight (regardless of catch disposition and converted to live weight) on hauls that encountered each of the SBRM species groups or species. Subsequently, one could calculate the ratio of encountered SBRM species (by count and by weight) for each SBRM fleet by dividing the species-specific haul count and weight by the total haul count and total weight all species, respectively. Once a cut-point to identify the "unlikely" cells was established, one could then define the minimum number of hauls that could be used to determine unlikely classification.

Pilot Coverage

This exploratory summary highlighted the need to expand the implementation of pilot coverage to include the consideration of the number of active vessels within fleet to avoid excessive coverage in fleets comprised of only a couple of vessels. The use of model-based methods for sea turtles may results in different species groups determining the sea days needed for some fleets, thus this summary should be considered provisional.

Most SBRM documents report the number of sea days needed to achieve the SBRM precision standard because funding is associated with sea days (the costs of deploying an observer are often in terms of "costs per day" and thus sea days is the useful metric to use). Because trip length varies within and across fleets, it is also useful to report the needed coverage in terms of trips. Recent deployments of observers for compliance monitoring have been implemented based on the sampling unit (trips), and thus it is useful to summarize the SBRM performance standard in terms of trips. It is important to note that the SBRM performance standard (whether it is in terms of sea days or trips) is not based upon percent coverage but on precision and incorporates the magnitude of the discards and total mortality due to discards. The derived percent coverage provides a relative gauge of coverage that can be compared to pilot coverage.

It is noteworthy that for some fleets the 2% pilot coverage exceeds the coverage levels needed. An example of this case is NE shrimp trawl (Row 16). The realized coverage is approximately 0.6% of trips while required coverage, based on the determining species, GFS, needed 1% coverage and consequently the SBRM performance standard was met. In this case, 1% pilot coverage may be more appropriate level than 2%.

The continued use of 2% pilot coverage when all species groups are filtered out warrants further consideration. Maintaining some coverage is desirable; however, a lower percentage may be sufficient in these cases. For example, NE hagfish pot fleet (Row 42) is a fleet where all SBRM species groups are filtered out in 2009 SBRM (Wigley et al. 2011), 2010 SBRM (NEFSC 2010), and SBRM 2011 (NEFSC 2011) indicating no discarding issues were present in this fleet.

When all species groups are filtered out, using a minimum pilot coverage may warrant consideration (see Recommendations Section 9).

It is useful to note that while the species group that determined the number of sea days needed may not be met, other species groups within the fleet may be met. For example: MA small mesh otter trawl (Row 5) required about ~17% coverage for sea turtles (Table 17), yet realized coverage was between 4% and 7% coverage (Table 2 in Wigley et al. 2011). In 2011, the fleet performance standard was not met for sea turtles (the determining species), squid-butterfish-mackerel, or small mesh groundfish but was met for fluke-scup-black sea bass, skate complex, and spiny dogfish (Table 5).

SBRM Methods for Sea Turtles

Incidental captures of sea turtles are generally very rare on Georges Bank and in the Gulf of Maine. These regions have not been included in NEFSC model-based bycatch analyses because turtle captures there are too sparse to support robust model-based analyses. For instance, in ~70,000 observed otter trawl hauls on Georges Bank and the Gulf of Maine over a 15-year period there was 1 observed loggerhead interaction (Warden 2011a). Sampling of fleets in the Northeast region has increased in recent years with the rise of sectors and at-sea monitors. Once analyzed these data may provide new information on turtle capture rates outside of the Mid-Atlantic, which could subsequently lead to better estimates of monitoring needs on Georges Bank and in the Gulf of Maine.

While almost all loggerhead interactions observed by northeast fisheries observers have occurred in trawl, gillnet, or dredge gears, some have occurred in other gear types (for instance, one loggerhead was observed in beach seine gear between 2009-2011, Wigley et al. 2011). To date there has not been enough information to estimate turtle interactions in these other gear types, though monitoring is still estimated under SBRM for fish discards or as pilot coverage when there is insufficient observer coverage. Monitoring for turtle interactions in these gear types can be reassessed if sufficient information becomes available.

Potential Source of Bias and Accuracy Analyses (Section 7)

Results should be interpreted cautiously due to the following factors: (1) small sample sizes in some cells of the contingency analysis and the odds ratio analyses, and (2) the limitations of using an indirect method to match trips between databases. Identification of trips (via mid-point matching method) resulted in a subset of the observed trips that did not match VTR trips and indicated that some misclassification of trips had occurred (some VTR trips were classified as unobserved when the trip was observed). Improvements in the databases are needed such that direct linking between trips is possible.

Analyses of bias provide little evidence of systematic bias. The increased coverage for compliance monitoring was evident in fleets[8] associated with the US/Canadian special access

[8] Since 2007, the target coverage rate of trips fishing in the US/Canada access areas has ranged between 20% and 30%, higher than the 8% target coverage for non-US/Canada trips. Most trips fishing in the US/Canada access area are large mesh otter trawlers, trips associated with NE large mesh otter trawl (Row 8). Analyses conducted at a sub-fleet level for NE large mesh otter trawl (Row 8) indicate that the mean trip duration (7.7 days) for observed trips fishing in the US/Canada access area (trips with NEFOP program code = "130") is more than twice as long as the mean trip duration (2.7 days) for non-US/Canada observed trips. For the SBRM analyses, sub-fleet analyses could not be conducted because VTR trips participating in the special access programs like US/Canada access area could not be identified.

program (Tables 2 and 3 in Wigley et al. 2011) and thus bias may be due to deployment of observers, not a change in behavior when an observer is on board. Further investigation is needed.

Spatial plots showing the distribution of observed and unobserved subtrips represent a qualitative analysis. It is assumed that the patterns revealed by the large number of VTR unobserved trips would not be influenced by the relative few misclassified "unobserved" trips. However, the limitation of using only a subset of VTR unobserved trips (those with point locations) could lead to some misinterpretation of spatial patterns and spatial coherence with observed trips. Additionally, spatial patterns could be influenced by inaccurate reporting or inappropriate spatial scale used (a single point location to define a fishing location of a subtrip) in VTR unobserved trips and/or "outlier" hauls may affect the position of the mean center point for NEFOP observed trips. Limitations due to use 10' square scale derived from a single point location should be investigated. Possible future analysis might include "Hot Spot" analysis.

Implications for Management (Section 8)

Consequences to Management when SBRM Performance Standard Is not Met

As previously mentioned, the cells where the SBRM performance standard was "Not Met" are listed, by SBRM year, fleet, and species groups, in Appendix Table 3. In SBRM 2009, the performance standard was not met for one to six species groups across ten fleets, six (60%) of which were MA fleets. In SBRM 2010, the performance standard was not met for one to six species groups across nine fleets, six (66%) of which were MA fleets. In SBRM 2011, the performance standard was not met for one to four species groups across eight fleets, five (63%) of which were MA fleets. Overall, there were five species groups, corresponding to 4 FMPs, with cells that did not meet the performance standard in some of the fleets in all three SBRM years. These species groups are: spiny dogfish, small mesh groundfish, squid-butterfish-mackerel, skate complex, and sea turtles. The cells where the performance standard was "Unknown" are given in Appendix Table 4. There were 22 fleets in SBRM 2009, 29 fleets in SBRM 2010, and 30 fleets in SBRM 2011. Some of the implications for management when the SBRM performance standard is not met or is unknown are described below.

There are a number of potential consequences if the SBRM performance standard is not met. First, decreased precision of discard estimates could affect outcomes at the stock assessment level, though consequences of poor statistical precision of discard estimates may be accounted for explicitly in the stock assessment. Poor precision of estimated discards could result in a greater buffer being set by Fishery Management Council's Science and Statistical Committees (SSC) between overfishing limits (OFL) and ABCs. This has a cascade effect down the line for subsequent quota specifications and generally could result in unnecessary reduction in allowable landings allocated to the fishery. One could argue that poorly estimated discards could impede the Council's ability to achieve optimal yield.

Secondly, at the management level, imprecise estimation of discards would generally result in an estimate of projected discards with wider confidence bounds (compared to those derived from high sample sizes) for the upcoming fishing year. Managers may opt to decrease allowable landings to account for uncertainty in discard estimation, but generally the Councils use the point estimate of discards and assume that uncertainty in the estimates have been accounted for in the specification of ABC (so relatively imprecise estimates may have no effect on the annual catch specifications). However, imprecise discard estimates contravene the ability

of Council to determine if in fact true discards were actually the amount estimated for the year or were actually misestimated due to random error in sampling (the problem being exacerbated, all things being equal, by low sample sizes relative to the desired levels of sampling to achieve a target CV).

The management consequences described above occurs at the stock level, while SBRM performance criteria occur at the fleet level. Often discards from several fleets are estimated and combined for the stock. A summary of the precision associated with the 2007 - 2010 estimated discards of 13 stocks that were reviewed during the Stock Assessment Review Committee (SARC) 49 (December 2009) through SARC 52 (June 2011) is presented in Table 25. Of the 13 stocks, one stock did not present discards (discards of Atlantic surfclams are assumed negligible), and five stocks did not have precision information available. The precision of the discard estimates of the remaining seven stocks varied. The three winter flounder stocks had precision estimates that were generally less than 30% CV except in four of the 12 cases. The precision estimates for pollock and sea scallop discards were all less than 30 % CV while *Loligo* and butterfish had precision estimates greater the 30% CV (Table 25). It is important to note that total estimated discards used in the stock assessments represent one or more fleets, and not a single fleet as in SBRM. The precision associated with the discards from the fleet with the largest contribution to the total will contribute the most to the resulting precision at the stock level.

The discard CV is not the only source of uncertainty in the ABC determination. It is also important to note that the impacts of a high or low discard CV in stock assessments and ABC determination depend on at least two other factors: the discards as a proportion of total catch, and the total catch as a proportion of the available ACL. If discards are high and the proportion of total catch is high, then the CV may become more important in evaluating whether actual catch was below the ACL. If discards are a small portion, and much of the available catch is not caught, the opposite is true. The other factor that is important is the presence or absence of bias.

As mentioned in the text above on effectiveness of SBRM (Section 5), cells with an "Unknown" performance classification may not necessarily contribute significantly to the uncertainty in the total stock discards as many of these pilot fleets are associated with "selective gears" (e.g., lobster pot, and hagfish pot) and have a specific target species for which the incidental catch of other SBRM species is not likely. While it is necessary to have coverage of these fleets, it may be that many of the cells associated with these fleets would contribute very little to the total discards of a stock and would be filtered out via the SBRM importance filter and consequently have the "Not Met (filtered out)" or "Met (filtered out)" classification.

There is a mismatch between the SBRM year and the calendar year for Mid-Atlantic managed species. The Mid-Atlantic Council's Annual Catch Limits and Accountability Measures Omnibus Amendment[9], which was recently approved by the Secretary of Commerce, contains accountability measure (AM) provisions which require annual estimates of landings and discards for each of its managed species (with the exception of *Loligo* and *Illex* squid). The principal requirement of the AM provisions is that any catch overages (either from landings or discards) in a given year must be deducted from the calculated ABC the following year. Therefore, it is critical that calendar year discard estimates be available for the proposed ACL/AM system in the Mid-Atlantic to operate effectively. While this need for annual discard estimates is recognized, the SBRM is a combination of sampling design, data collection procedures, analytic methods to

[9] For details of the MAFMC's ACL/AM Omnibus amendment, see: http://www.mafmc.org/fmp/omnibus.htm

estimate discards and allocate observer coverage (i.e., a methodology). The time period of the data is selected to include the most recent available data and the stratification (region based on port of departure) supports the deployment of observers. As stated previously, the SBRM is not intended to be the definitive document on the estimation methods nor is it a compendium of discard rates and total discards (Wigley et al. 2007). The SBRM is intended to support the analyses such as one identified by the MAFMC.

Non-federally Managed Species

The Atlantic States Marine Fisheries Commission (ASMFC) manages species that are predominantly fished in state waters. However, these species are often caught in federal waters. The SBRM does not include non-federally managed species and thus these species are not used in the allocation of observer coverage. There is the potential that some non-federally managed species may not have estimates of bycatch with an adequate CV, and as a result there may be uncertainty in the estimates of total removals of these species. As mentioned above, uncertainty in catch propagates through the stock assessment and into estimates of population status and management targets for some ASMFC managed species.

River herring is one of the more high profile examples of this phenomenon. Amendment 5 to the Atlantic Herring FMP and Amendment 14 to the Atlantic Mackerel, Squid, and Butterfish FMP – both currently under development – include options to improve monitoring and reduce rates of ocean bycatch of shad and river herring in those fisheries. Implementation of some of the options under consideration in the two Federal FMPs would require bringing shad and river herring into the SBRM framework or necessitate development of an alternative catch monitoring framework for those species. One such alternative monitoring program would be port-based sampling of landings (landings that include target and non-target species such as river herring). These alternative monitoring programs may be more cost effective than at-sea monitoring of discards for fleets where non-target species are relative low compared to total catch, such as river herring. However, these options are not available to other ASMFC-managed species that are not explicitly addressed in federal FMPs.

A broader list of species within the SBRM analyses may provide important information to the assessment and management process for those non-federally managed species. The SBRM framework allows for contributions and collaboration with non-Federal stakeholders to increase observer coverage and improve CVs for non-federally managed species in federal fisheries. For example, the ASMFC has recently secured funding through Atlantic Coastal Cooperative Statistics Program (ACCSP) to increase observer coverage in fisheries of interest in the Mid-Atlantic region. This is being accomplished by funding sea days through NEFOP. Collaborative work began in the Spring of 2011 where NMFS staff worked closely with ASFMC staff, providing vessel lists, flexibility guidelines, and other background information on SBRM and sea day allocation. This type of collaborative work benefits both Federal and non-Federal stock assessments.

If the list of species groups considered within SBRM is to be expanded, then the next steps would include: (1) developing a list of non-federally managed species (all or a selected subset of species that occur in federal waters); (2) exploring the stratification needed for non-federally managed species and evaluating if existing stratification of fleets is adequate; and (3) if appropriate, develop prioritization protocols for when funding is inadequate for fleets where the "driving" species is a non-federally managed species.

Benefits of resolving competing priorities among FMPs and funding limits are among the overarching issues that have management implications. There have been recent amendments to several FMPs to include industry-funded observer coverage for bycatch estimation and compliance monitoring. As each FMP develops separately, the need to resolve competing priorities will remain.

RECOMMENDATIONS (SECTION 9)

The SBRM FMAT met several times during the May 2011 and July 2012 period to discuss various aspects of this review and to develop the recommendations. The SBRM FMAT meeting participants are given in Appendix Table 5.

SBRM Omnibus Amendment

The SBRM omnibus amendment included provisions intended to enable the Councils to make changes to certain elements of the SBRM through framework adjustments and/or annual specification packages rather than full FMP amendments. These provisions envisioned that the framework and specification process of all subject FMPs would provide for an efficient process to modify aspects of the Northeast Region SBRM, as related to the specific FMP, should the need arise and the appropriate Council determine that a change to the SBRM was warranted to address a contemporary management or scientific issue. Depending on the provisions of each FMP, changes to the SBRM would be affected either through a framework adjustment to the FMP or through annual or periodic specifications. Such changes to the SBRM may include modifications to the CV-based performance standard, the means by which discard data are collected in the fishery, reporting on discards or the SBRM, or the stratification (modes) used as the basis for SBRM-related analyses. Such changes may also include the establishment of a requirement for industry-funded observers and /or observer set-aside provisions.

However, subsequent work has shown that making such changes through FMP framework adjustments or annual specifications is more complicated than was envisioned when the SBRM amendment was adopted by the Councils and approved by NMFS. The expectation was that changes made to the SBRM for a single FMP would only raise or lower the total number of sea-days needed to meet the target CV. If there were not sufficient resources to meet the new target, the discrepancy would be addressed through the prioritization process. Because of the cross-FMP nature of the fishing modes and other aspects of the SBRM, changes made by one FMP to a single fishing mode (e.g., to the CV-based performance standard or how discard data are collected) would have consequences on the allocation of observer coverage or data analysis for all of the FMPs that include the fishing mode. In some cases the changes adopted by one Council intended to affect a single FMP could have impacts on other FMPs under the jurisdiction of the other Council. This could lead to conflict between the Councils. Therefore, some SBRM changes that were intended to be modified through a framework adjustment or an annual specifications package could ultimately require an entirely new omnibus amendment developed jointly by both Councils in order to meet the legal requirements of the Magnuson-Stevens Act or require additional levels of analysis under National Environmental Policy Act (NEPA). These questions were not fully addressed in the original SBRM amendment. In addition, NMFS has made some changes to the SBRM, including adoption of new fishing modes, without going through the process outlined in the SBRM amendment and without formal adoption by either Council. These new fishing modes were added to the SBRM process to

recognize and adapt to new gear that was already in use in the fishery with significantly different bycatch characteristics.

Upon review of the potential difficulties inherent in the modification process specified in the SBRM amendment, the FMAT has concluded that requiring a formal framework adjustment or annual specification to make these kinds of improvements to the SBRM process could result in unnecessary delays and hinder the adoption of changes to advance the science. It is the opinion of the FMAT that future considerations for the SBRM process should include clear mechanisms that address any requirements under the Magnuson-Stevens Act, NEPA, or other applicable laws while allowing changes to the SBRM process to improve the science in a clear and public format without unnecessary delays or potential for conflict between the Councils.

To further enhance the SBRM process, the SBRM FMAT also recommends the following: (1) refinements to the importance filter (omit the unlikely filter); (2) refinements to minimum pilot coverage; (3) integration of model-based methods for turtles to the extent possible; (4) incorporate new fleets without Council action; (5) sea turtle monitoring needs will be informed by loggerhead bycatch models until models for other turtle species become available; and (6) consideration of incorporating non-federally managed species in the SBRM (Table 26).

SBRM Annual Reports

Council members and council staff have commented that the information presented in the SBRM Annual Reports is not particularly useful for management purposes. Estimates of discards (and their associated variances) by mesh and region similar to those presented in the SBRM 3-year Review Report 2011 - Part 1 (Wigley et al. 2011) would be of more utility to managers to help judge adequacy of coverage by fishery and efficacy of management. The preferred presentation would be discard estimates by species attributable to fishery or permit type to provide relevance to fishery management activities. Ultimately, managers require estimates of discards by species for managed fisheries to determine if the discard component of ABC, ACL, and/or ACT has been exceeded to comply with the new annual catch limits and accountability measures of Magnuson-Stevens Act. There was FMAT consensus to consider the possibility of eliminating the annual report tables and use a modified version of the SBRM 3-year Review Report figures and tables (discards of species and species group by gear, for example). The attribution of discards to fishery or permit type may be challenging given the number of fishing permits held by an individual fishing vessel. A provisional summary of the number of fishing permits held by individual vessels in 2010 indicate that in most fleets the majority of vessel within that fleet held more than one fishing permit (plan and category). For example, in the 2010 NE large mesh otter trawl fleet, approximately 68% of the vessels in this fleet hold more than 10 fishing permits. Without a fishery declaration for every trip, it may not be possible to attribute discards of various species groups to one (or more) particular FMP. Additionally, the summary of discard reasons revealed that for many species, the discarding is not due to regulatory reasons, but rather economic (i.e., “No Market”) reasons.

Regarding reporting frequency, several options were suggested. One option might be to create a two-year cycle for the annual report: provide pieces of the information every other year to ease the reporting burden. Another alternative would be to produce the entire report every two years rather than every year or on a periodic basis aligned with management needs. There was also a comment that the SBRM years are confusing and it was suggested that calendar years be used (for example, the annual report delivered January 2012 would use data through December

2011, which would introduce a one-year lag). There was FMAT consensus that the SBRM analyses based on recent data are most desirable. Synchronization of information requirements for all FMP fishing years, fiscal years and observer coverage years is not possible.

There was also a suggestion to provide additional information in the annual SBRM report that would be useful during the prioritization process. Graphs depicting the relationship between sample sizes and the precision of the discard estimates for species groups within a fleet were suggested. These graphs could be generated for fleets with sufficient data to conduct sample size analysis (non-pilot fleets) and for species groups not filtered out (important). The shape of the curves would illustrate the diminishing returns of CV as sea days increase (smaller increase in precision for the same increase in sea days). The graphs would display the determining species group relative to other important species groups within the fleet. The suggested graphs would include three metrics along the x-axis: (1) sea days needed to achieve 30% CV; (2) trips needed to achieve 30% CV; and (3) percent of trips needed relative to the previous year's activity.

An example graph is provided for illustrative purposes. The relationship between sample size and precision of SBRM species groups in MA small mesh otter trawl fleet (Row 5) in SBRM 2011 is depicted in Figure 12. For the MA small mesh otter trawl fleet, six species groups were not filtered out; sea turtles is the "determining species group" with 1,449 days needed to achieve a 30% CV. The five other species groups are expected to achieve a 30% CV or lower. All other species groups in these fleets have been filtered out via the importance filter.

SBRM FMAT recommendations to the SBRM annual reporting requirements are summarized in Table 27. Several of the suggested tables and graphs can be found in Wigley et al. 2012, Murray 2012, and NEFSC 2012.

SUMMARY

This report evaluates the effectiveness of the SBRM at meeting the performance standard for each fleet and the implications for management of the discard information collected under the SBRM for any case where the performance standard is not met.

On an annual basis, the percentages of cells that met the SBRM performance standard in SBRM 2009, 2010, and 2011 were 63%, 60%, and 69%, respectively. The percentages of cells that met the SBRM performance standard in SBRM 2009, 2010, and 2011 vary by species group and fleet. The majority of cells that did not meet the performance standard were associated with MA fleets, the fleets most impacted by the funding constraints. Overall, of the 15 species groups, there were five species groups, corresponding to 4 FMPs, with cells that did not meet the performance standard in some of the fleets in all three SBRM years. Consequences to management centered on the decreased precision of the discard estimates at the stock level. The ability to account for such uncertainty in some stock assessments is available.

Comprehensive treatment of observer allocation is an essential step in monitoring the efficacy of fisheries management. The SBRM provides a general structure for defining fisheries into homogeneous groups and allocating observer coverage based on prior information and the expected improvement in overall performance of the program. Hence, the SBRM uses the previous year's information on the precision of estimated discard totals to define sampling targets for an upcoming year. This allows for continuous improvement in allocation as new information is obtained. The general structure helps identify gaps in existing coverage, similarities among groups that allow for realistic imputation, and the tradeoffs associated with coverage levels for different species.

There is evidence that the methodology's assumptions (variance stability from year to year) are met. However, the effectiveness of the SBRM does not hinge solely on the methodology's assumptions. The magnitude of funding to support the required sea days is equally important. When there are funding shortfalls, as there were during all three years, tradeoffs were made when sea days were allocated to fleets. There has been increased emphasis on some species groups, regions, or subgroups of vessels that come at the expense of reduced coverage for others. Funding for the required sea days must be obtained or tradeoffs will occur.

The SBRM methods used during the 3-year time period did not differ from those described in the SBRM Omnibus Amendment. However, an additional species and additional fleets were added throughout the time period to keep pace with management regulations. Through this evaluation, several refinements to the methods have been identified. These refinements can be implemented directly into the next SBRM analysis.

There is little evidence of systematic bias across all fleets. There are, however, a few fleets where evidence suggests there may be differences between observed and unobserved vessels that could affect discard estimates. An example is the NE large mesh otter trawl fleet (Row 8) that contains a special access program (US/Canada) sub-fleet component. Further investigation is needed to determine if this evidence leads to inaccurate discard estimates.

The reasons for discards varied by species group, gear type; however, patterns of discard reasons persisted over years. In each of the SBRM year, the majority (80%) of the 14 SBRM species groups discards (by weight) were attributed to "No Market" while 15% of the discards were associated with "Regulations," and the remaining 5% split between "Poor Quality" and "Other" discard reasons. As managers strive to reduce bycatch and consider mechanisms to reduce discard, it may be useful to know the portion of the regulatory and economic discards that have occurred.

Refining the prioritization process is beyond the scope of this report. This topic is current being addressed as the SBRM FMAT develops a revised SBRM Omnibus Amendment. Several of the recommendations identified in this report could be included in the revised amendment. The recommendations represent only refinements to the SBRM.

Overall, the Standardized Bycatch Reporting Methodology represents one of the most comprehensive programs for planning and executing observer monitoring coverage of federally managed fisheries. The first 3 years of the program, summarized and evaluated in this report and in Part 1 (Wigley et al. 2011), illustrate the utility of the approach for monitoring discards in these fisheries and the real-world limitations of implementing an ideal system. Variations in the overall magnitude of funding, constraints on the uses of funding, and competing objectives among fishery management plans are some of the factors that impede attainment of the overall target level of precision.

ACKNOWLEDGEMENTS

We wish to thank all the NEFOP observers for their diligent efforts to collect the data used in this report. We thank Chad Keith for his assistance with the GIS distribution plots. We thank our reviewers for their helpful comments on this report.

REFERENCES CITED

Bland JM, Altman DG. 2000. The odds ratio. *British Medical Journal*. May 27; 320(7247):1468.

Cochran WL. 1963. Sampling techniques. J. Wiley and Sons. New York.

Murray KT. 2007. Estimated bycatch of loggerhead sea turtles (*Caretta caretta*) in U.S. Mid-Atlantic scallop trawl gear, 2004-2005, and in sea scallop dredge gear, 2005. US Dept Commer, Northeast Fish Sci Cent Ref Doc 07-04; 30p. Available online at: http://www.nefsc.noaa.gov/publications/crd/crd0704/

Murray KT. 2008. Estimated average annual bycatch of loggerhead sea turtles (*Caretta caretta*) in US Mid-Atlantic bottom otter trawl gear, 1996-2004 (2nd edition). US Dept Commer, Northeast Fish Sci Cent Ref Doc 08-20; 32 p. Available online at: http://www.nefsc.noaa.gov/publications/crd/crd0820/

Murray KT. 2009a. Characteristics and magnitude of sea turtle bycatch in U.S. mid-Atlantic gillnet gear. *Endang. Species Res*. 8:211-224.

Murray KT. 2009b. Proration of estimated bycatch of loggerhead sea turtles in U.S. mid-Atlantic sink gillnet gear to vessel trip report landed catch, 2002-2006. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 09-19; 7p. Available online at: http://www.nefsc.noaa.gov/publications/crd/crd0919/

Murray KT. 2011. Interactions between sea turtles and dredge gear in the U.S. sea scallop (*Placopecten magellanicus*) fishery, 2001-2008. *Fish. Res* 107:137-146.

Murray KT. 2012. Estimating observer sea day requirements in the Mid-Atlantic region to monitor loggerhead sea turtle (*Caretta caretta*) interactions. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 12-26; 10 p. Available online at: http://www.nefsc.noaa.gov/publications/crd/crd1226/

National Marine Fisheries Service (NMFS) 1998a. Managing the Nation's bycatch: priorities, programs and actions for the National Marine Fisheries Service. National Marine Fisheries Service, 192 p. Available at: http://www.nmfs.noaa.gov/by_catch/docs/bycatchplanonline.pdf

National Marine Fisheries Service (NMFS). 2004. Evaluating bycatch: a national approach to standardized bycatch monitoring programs. U. S. Dep. Comm., NOAA Tech. Memo. NMFS-F/SPO-66, 108 p. On-line version, http://www.nmfs.noaa.gov/by_catch/SPO_final_rev_12204.pdf

National Marine Fisheries Service (NMFS). 2007. Magnuson-Stevens Fishery Conservation and Management Act As Amended Through January 12, 2007. US Dep Commer. May 2007. Second Printing; 170 p. Available at: http://www.nmfs.noaa.gov/msa2005/docs/MSA_amended_msa%20_20070112_FINAL.pdf

National Marine Fisheries Service (NMFS). 2008. Magnuson-Stevens Fishery Conservation and Management Act Provisions; Fisheries of the Northeastern United States; Northeast Region Standardized Bycatch Reporting Methodology Omnibus Amendment. Federal Register, Vol. 73, No. 18, Monday, January 28, 2008. p. 4736-4758. Available on-line at: http://www.gpo.gov/fdsys/pkg/FR-2008-01-28/pdf/E8-1436.pdf

National Marine Fisheries Service (NMFS). 2010. Fisheries of the northeastern United States; Atlantic Mackerel, Squid, and Butterfish Fisheries; Amendment 10. Federal Register, Vol. 75, No. 47, Thursday, March 11, 2010. p. 11441 – 11451. http://www.mafmc.org/fmp/SMB_Amend10_Final_Rule.pdf

National Marine Fisheries Service (NMFS). 2011. Fisheries of the Northeastern United States; Removal of Standardized Bycatch Reporting Methodology Regulations. Federal Register, Vol. 76, No. 250, Thursday, December 29, 2011. p. 81844 – 81850. http://www.gpo.gov/fdsys/pkg/FR-2011-12-29/pdf/2011-33302.pdf

New England Fishery Management Council (NEFMC), Mid-Atlantic Fishery Management Council and National Marine Fisheries Service. 2007. Northeast Region Standardized Bycatch Reporting Methodology: An Omnibus Amendment to the Fishery Management Plans of the New England and Mid-Atlantic Fishery Management Councils. June 2007. 642 p. Available on-line at: http://www.nefmc.org/issues/sbrm/index.html

Northeast Fisheries Science Center (NEFSC). 2009. Standardized bycatch report methodology prioritization 2009. Internal document presented to the NEFMC and MAFMC on February, 2009. 3 p. Available on-line at: http://www.nefsc.noaa.gov/femad/fsb/SBRM/2009/2009-SBRM%20Prioritization_v2-notrack-withdisclaimer.pdf

Northeast Fisheries Science Center (NEFSC). 2010. Standardized bycatch report methodology sea day analysis and prioritization 2010. Internal document presented to the NEFMC and MAFMC on January 26, 2010. 23 p. Available on-line at: http://www.nefsc.noaa.gov/femad/fsb/SBRM/2010/2010-SBRM-Sea-Day-Analysis-Prioritization-01262010.pdf

Northeast Fisheries Science Center (NEFSC). 2011a. Standardized bycatch report methodology annual discard report 2009 (Section 1 and 2), revised January 2011. Internal document presented to the NEFMC and MAFMC. 1771 p. Available on-line at: http://www.nefsc.noaa.gov/femad/fsb/SBRM/

Northeast Fisheries Science Center (NEFSC). 2011b. Standardized bycatch report methodology annual discard report 2010 (Section 1 and 2), revised January 2011. Internal document presented to the NEFMC and MAFMC. 1743 p. Available on-line at: http://www.nefsc.noaa.gov/femad/fsb/SBRM/

Northeast Fisheries Science Center (NEFSC). 2011c. Standardized bycatch report methodology annual discard report 2011 (Section 1 and 2). Internal document presented to the NEFMC and MAFMC. 1135 p. Available on-line at: http://www.nefsc.noaa.gov/femad/fsb/SBRM/

Northeast Fisheries Science Center (NEFSC) and Northeast Regional Office (NERO). 2011. Standardized bycatch report methodology sea day analysis and prioritization 2011, January 25, 2011. Internal document presented to the NEFMC and MAFMC. 25p. Available on-line at: http://www.nefsc.noaa.gov/femad/fsb/SBRM/2011/2011-SBRM-Sea-Day-Analysis-Prioritization.pdf

Northeast Fisheries Science Center (NEFSC) and Northeast Regional Office (NERO). 2012. Proposed 2012 observer sea day allocation, March 23, 2012. Internal document presented to the Northeast Regional Coordinating Committee. 11 p. Available on-line at: http://www.nefsc.noaa.gov/femad/fsb/SBRM/2012/Proposed_2012_Observer_Sea_Day_Allocation_3-23-2012_v3.pdf

Northeast Fisheries Observer Program (NEFOP). 2010. Fisheries observer program manual 2010. Northeast Fisheries Science Center, Woods Hole, MA 02543. 442 p. Available on-line at: http://www.nefsc.noaa.gov/fsb/manuals/2010/NEFOPM_010110_Bookmarks_Compressed.pdf

Orphanides C. 2009. Protected species bycatch estimating approaches: estimating harbor porpoise bycatch in U.S. Northwestern Atlantic gillnet fisheries. *J. Northw. Atl. Fish. Sci*., Vol. 42:55-76.

Rago PJ, Wigley SE, Fogarty MJ. 2005. NEFSC bycatch estimation methodology: allocation, precision, and accuracy. US Dep Commer, Northeast Fish Sci Cent Ref Doc. 05-09; 44 p. Available on-line at: http://www.nefsc.noaa.gov/publications/crd/crd0509/

Rossman MC. 2007. Allocating observer sea days to bottom trawl and gillnet fisheries in the Northeast and Mid-Atlantic regions to monitor and estimate incidental bycatch of marine mammals. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 07-19; 17 p. Available online at: http://www.nefsc.noaa.gov/publications/crd/crd0719/

Sokal RR, Rohlf, FJ. 1981. Biometry: The principles and practices of statistics in biological research. Second Edition; WH Freeman and Co. New York.

Upite C. 2011. Evaluating sea turtle injuries in northeast fishing gear. U.S. Dept. Commer, Northeast Fish Sci Cent Ref Doc 11-10; 26 p. Available online at: http://www.nefsc.noaa.gov/publications/crd/crd1110/

Warden ML. 2011a. Modeling loggerhead sea turtle (*Caretta caretta*) interactions with U.S. Mid-Atlantic bottom trawl gear for fish and scallops, 2005-2008. *Biol. Cons*. 144:2202-2212.

Warden ML. 2011b. Proration of loggerhead sea turtle (Caretta caretta) interactions in U.S. Mid-Atlantic bottom otter trawls for fish and scallops, 2005–2008, by managed species landed. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 11-04; 8 p. Available online at: http://www.nefsc.noaa.gov/publications/crd/crd1104/

Warden ML, Murray KT. 2011. Reframing protected species interactions in commercial fishing gear: moving toward estimating the unobservable. *Fish. Res.*110: 387-390.

Wigley SE, Blaylock J, Rago PJ, Shield G. 2012. 2012 discard estimation, precision, and sample size analyses for 14 federally managed species in the northeast region. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 12-17; 147 p. Available online: http://www.nefsc.noaa.gov/publications/crd/crd1217/

Wigley SE, Blaylock J, Rago PJ, Tang J, Haas HL, Shield G. 2011. Standardized bycatch reporting methodology 3-year review report 2011- part 1. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 11-09; 285 p. Available online: http://www.nefsc.noaa.gov/publications/crd/crd1109/

Wigley SE, Hersey P, Palmer JE. 2008a. A description of the allocation procedure applied to the 1994 to 2007 commercial landings data. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 08-18; 35 p. Available on-line: http://www.nefsc.noaa.gov/publications/crd/crd0818/

Wigley SE, Palmer MC, Blaylock J, Rago, PJ. 2008b. A brief description of the discard estimation for the National Bycatch Report. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 08-02; 35 p. Available on-line: http://www.nefsc.noaa.gov/publications/crd/crd0802/

Wigley SE, Rago PJ, Sosebee KA, Palka DL. 2007. The analytic component to the standardized bycatch reporting methodology omnibus amendment: sampling design and estimation of precision and accuracy (2nd edition). U.S. Dep. Commer., Northeast Fish Sci Cent Ref Doc 07-09; 156 p. Available on-line: http://www.nefsc.noaa.gov/publications/crd/crd0709/index.htm

Table 1. List of the 15 SBRM species groups (in bold), with species group abbreviations in parentheses, and the individual species comprising these groups, corresponding to the 13 federal fishery management plans in the Northeast region.

ATLANTIC SALMON (SAL)
BLUEFISH (BLUE)
FLUKE - SCUP - BLACK SEA BASS (FSB)
Black Sea Bass
Fluke
Scup
HERRING, ATLANTIC (HERR)
LARGE MESH GROUNDFISH (GFL)
American Plaice
Atlantic Cod
Atlantic Halibut
Atlantic Wolffish[2]
Haddock
Ocean Pout
Pollock
Redfish
White Hake
Windowpane Flounder
Winter Flounder
Witch Flounder
Yellowtail Flounder
MONKFISH (MONK)
RED CRAB (RCRAB)

SEA SCALLOP (SCAL)
SKATE COMPLEX[1] (SKATE)
SMALL MESH GROUNDFISH (GFS)
Offshore Hake
Red Hake
Silver Hake
SPINY DOGFISH (DOG)
SQUID - BUTTERFISH – MACKEREL (SBM)
Atlantic Mackerel
Butterfish
Illex Squid
Loligo Squid
SURFCLAM - OCEAN QUAHOG (SCOQ)
TILEFISH (TILE)
SEA TURTLES (TURS)
Green Turtle
Hawksbill Turtle[3]
Kemp's Ridley Turtle
Leatherback Turtle
Loggerhead Turtle
Olive Ridley Turtle[3]
Turtles, unk.[3,4]
Turtles, unk hard-shell[5]

[1] Skate Complex is composed of seven species (barndoor skate, clearnose skate, little skate, rosette skate, smooth skate, thorny skate, and winter skate); individual species are not summarized separately.
[2] Atlantic wolffish is a species that was added to the Northeast Multispecies FMP when Amendment 16 was implemented on May 1, 2010. In SBRM 2009, wolffish was not part of the large mesh groundfish species group.
[3] A sea turtle species that was not observed in NEFOP data from July 2007 through June 2010 and do not appear in the tables of individual species or contribute to the sea turtle species group.
[4] Turtle, unk. is an unknown species of any sea turtle.
[5] Turtle, unk hard-shell is an unknown species of sea turtles other than a leatherback turtle.

Table 2. Number of cells (fleet-species group), by SBRM performance classification (Not Applicable, Unknown, Met [filtered out], Not Met [filtered out], Met, and Not Met) for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). The corresponding format key used in Tables 4 and 5 and the associated box number used Figure 1 are given.

	Number of cells (fleet and species group)			Format Key to	Box # used
SBRM Performance Classification	SBRM 2009	SBRM 2010	SBRM 2011	Tables 4 & 5	in Figure 1
NOT APPLICABLE: SBRM performance standard was not applicable. Variance of discard estimate was not available. Not considered in annual SBRM analysis.	120	15			1
UNKNOWN: SBRM performance standard was unknown. Variance of discard estimate was not used in annual sample size analysis due to no or insufficient observer coverage. Pilot coverage.	330	434	449	UNKNOWN	2, 3 ,4
MET (filtered out): SBRM performance standard was met (CV <= 30%). Variance of discard estimate was not used in annual sample size analysis due to the importance filter (filtered out). Non-pilot coverage.	157	176	166	MET	5, 7b
NOT MET (filtered out): SBRM performance standard was not met (CV > 30%). Variance of discard estimate was not used in annual sample size analysis due to the importance filter (filtered out). Non-pilot coverage.	117	108	116	NOT MET	7a
MET: SBRM performance standard was met (CV <= 30%). Variance of discard estimate was used in annual sample size analysis. Non-pilot coverage.	35	28	34	MET	6, 9
NOT MET: SBRM performance standard was not met (CV > 30%). Variance of discard was used in annual sample size analysis. Non-pilot coverage.	21	19	15	NOT MET	8
Total (15 SBRM species groups x 52 fleets)	780	780	780		

Table 3. Summary of SBRM performance by SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). "NOT APPLICABLE" indicates fleets not considered in annual SBRM analyses; "UNKNOWN" indicates the coefficient of variation (CV) was unknown due to insufficient observer coverage (pilot fleets); "MET" indicates the CV was less than or equal to 30% or discards equal 0; "NOT MET" indicates the CV was greater than 30%. "Filtered out" indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter.

Species Group	SBRM Performance Classification	SBRM 2009	SBRM 2010	SBRM 2011
ATLANTIC SALMON	NOT APPLICABLE	8	1	0
	UNKNOWN	22	29	30
	MET (Filtered out)	22	22	22
	NOT MET (Filtered out)	0	0	0
	MET	0	0	0
	NOT MET	0	0	0
BLUEFISH	NOT APPLICABLE	8	1	0
	UNKNOWN	22	29	30
	MET (Filtered out)	13	14	9
	NOT MET (Filtered out)	9	8	13
	MET	0	0	0
	NOT MET	0	0	0
FLUKE - SCUP - BLACK SEA BASS	NOT APPLICABLE	8	1	0
	UNKNOWN	22	29	30
	MET (Filtered out)	8	9	9
	NOT MET (Filtered out)	8	7	8
	MET	4	3	5
	NOT MET	2	3	0
HERRING, ATLANTIC	NOT APPLICABLE	8	1	0
	UNKNOWN	22	29	30
	MET (Filtered out)	12	11	13
	NOT MET (Filtered out)	10	11	9
	MET	0	0	0
	NOT MET	0	0	0
LARGE MESH GROUNDFISH	NOT APPLICABLE	8	1	0
	UNKNOWN	22	29	30
	MET (Filtered out)	6	10	7
	NOT MET (Filtered out)	11	8	10
	MET	3	4	4
	NOT MET	2	0	1
MONKFISH	NOT APPLICABLE	8	1	0
	UNKNOWN	22	29	30
	MET (Filtered out)	7	8	5
	NOT MET (Filtered out)	7	8	9
	MET	6	6	7
	NOT MET	2	0	1
RED CRAB	NOT APPLICABLE	8	1	0
	UNKNOWN	22	29	30
	MET (Filtered out)	17	14	13
	NOT MET (Filtered out)	5	8	8
	MET	0	0	0
	NOT MET	0	0	1

Table 3, continued. Summary of SBRM performance by SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). "NOT APPLICABLE" indicates fleets not considered in annual SBRM analyses; "UNKNOWN" indicates the coefficient of variation (CV) was unknown due to insufficient observer coverage (pilot fleets); "MET" indicates the CV was less than or equal to 30% or discards equal 0; "NOT MET" indicates the CV was greater than 30%. "Filtered out" indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter.

SEA SCALLOP	NOT APPLICABLE	8	1	0
	UNKNOWN	22	29	30
	MET (Filtered out)	10	13	9
	NOT MET (Filtered out)	12	8	12
	MET	0	1	1
	NOT MET	0	0	0
SKATE COMPLEX	NOT APPLICABLE	8	1	0
	UNKNOWN	22	29	30
	MET (Filtered out)	7	8	8
	NOT MET (Filtered out)	7	6	5
	MET	6	5	8
	NOT MET	2	3	1
SMALL MESH GROUNDFISH	NOT APPLICABLE	8	1	0
	UNKNOWN	22	29	30
	MET (Filtered out)	10	7	8
	NOT MET (Filtered out)	9	9	10
	MET	1	2	2
	NOT MET	2	4	2
SPINY DOGFISH	NOT APPLICABLE	8	1	0
	UNKNOWN	22	29	30
	MET (Filtered out)	6	5	6
	NOT MET (Filtered out)	5	7	7
	MET	5	7	7
	NOT MET	6	3	2
SQUID - BUTTERFISH - MACKEREL	NOT APPLICABLE	8	1	0
	UNKNOWN	22	29	30
	MET (Filtered out)	6	10	10
	NOT MET (Filtered out)	15	11	10
	MET	0	0	0
	NOT MET	1	1	2
SURFCLAM - OCEAN QUAHOG	NOT APPLICABLE	8	1	0
	UNKNOWN	22	29	30
	MET (Filtered out)	9	10	13
	NOT MET (Filtered out)	13	12	9
	MET	0	0	0
	NOT MET	0	0	0
TILEFISH	NOT APPLICABLE	8	1	0
	UNKNOWN	22	29	30
	MET (Filtered out)	18	18	17
	NOT MET (Filtered out)	4	4	5
	MET	0	0	0
	NOT MET	0	0	0

Table 3, continued. Summary of SBRM performance by SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). "NOT APPLICABLE" indicates fleets not considered in annual SBRM analyses; "UNKNOWN" indicates the coefficient of variation (CV) was unknown due to insufficient observer coverage (pilot fleets); "MET" indicates the CV was less than or equal to 30% or discards equal 0; "NOT MET" indicates the CV was greater than 30%. "Filtered out" indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter.

SEA TURTLES	NOT APPLICABLE	8	1	0
	UNKNOWN	22	28	29
	MET (Filtered out)	6	17	17
	NOT MET (Filtered out)	2	1	1
	MET	10	0	0
	NOT MET	4	5	5

Table 4. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: ATLANTIC SALMON

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
1	Longline	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
2	Longline	OPEN	all	NE	all	MET	MET	MET
3	Hand Line	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
4	Hand Line	OPEN	all	NE	all	UNKNOWN	MET	MET
5	Otter Trawl	OPEN	all	MA	sm	MET	MET	MET
6	Otter Trawl	OPEN	all	MA	lg	MET	MET	MET
7	Otter Trawl	OPEN	all	NE	sm	MET	MET	MET
8	Otter Trawl	OPEN	all	NE	lg	MET	MET	MET
9	Scallop Trawl	AA	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
10	Scallop Trawl	AA	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
11	Scallop Trawl	OPEN	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
12	Scallop Trawl	OPEN	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
13	Otter Trawl, Ruhle	OPEN	all	NE	lg		UNKNOWN	MET
14	Otter Trawl, Haddock Separator	OPEN	all	NE	lg			MET
15	Shrimp Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
16	Shrimp Trawl	OPEN	all	NE	all	MET	MET	MET
17	Floating Trap	OPEN	all	MA	all		UNKNOWN	UNKNOWN
18	Floating Trap	OPEN	all	NE	all		UNKNOWN	UNKNOWN
19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	MET	MET	UNKNOWN
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	MET	UNKNOWN	MET
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	MET	MET	MET
22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	UNKNOWN	UNKNOWN	UNKNOWN
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	MET	MET	MET
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	MET	MET	MET
25	Purse Seine	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
26	Purse Seine	OPEN	all	NE	all	MET	MET	MET
27	Scallop Dredge	AA	GEN	MA	all	MET	MET	UNKNOWN
28	Scallop Dredge	AA	GEN	NE	all	MET	MET	UNKNOWN
29	Scallop Dredge	AA	LIM	MA	all	MET	MET	MET
30	Scallop Dredge	AA	LIM	NE	all	MET	MET	MET
31	Scallop Dredge	OPEN	GEN	MA	all	MET	MET	MET
32	Scallop Dredge	OPEN	GEN	NE	all	MET	MET	MET
33	Scallop Dredge	OPEN	LIM	MA	all	MET	MET	MET
34	Scallop Dredge	OPEN	LIM	NE	all	MET	MET	MET
35	Mid-water paired & single Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
36	Mid-water paired & single Trawl	OPEN	all	NE	all	MET	MET	MET
37	Pots and Traps, Fish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
38	Pots and Traps, Fish	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
39	Pots and Traps, Conch	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: ATLANTIC SALMON

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
40	Pots and Traps, Conch	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
41	Pots and Traps, Hagfish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
42	Pots and Traps, Hagfish	OPEN	all	NE	all	MET	MET	MET
43	Pots and Traps, Shrimp	OPEN	all	NE	all		UNKNOWN	UNKNOWN
44	Pots and Traps, Lobster	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
45	Pots and Traps, Lobster	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
46	Pots and Traps, Crab	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
47	Pots and Traps, Crab	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
48	Beam Trawl	OPEN	all	MA	all		UNKNOWN	UNKNOWN
49	Beam Trawl	OPEN	all	NE	all		UNKNOWN	UNKNOWN
50	Dredge, Other	OPEN	all	MA	all		UNKNOWN	UNKNOWN
51	Ocean Quahog/Surf Clam Dredge	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
52	Ocean Quahog/Surf Clam Dredge	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: BLUEFISH

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
1	Longline	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
2	Longline	OPEN	all	NE	all	MET	MET	NOT MET
3	Hand Line	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
4	Hand Line	OPEN	all	NE	all	UNKNOWN	MET	NOT MET
5	Otter Trawl	OPEN	all	MA	sm	NOT MET	NOT MET	NOT MET
6	Otter Trawl	OPEN	all	MA	lg	NOT MET	NOT MET	NOT MET
7	Otter Trawl	OPEN	all	NE	sm	NOT MET	NOT MET	NOT MET
8	Otter Trawl	OPEN	all	NE	lg	MET	MET	NOT MET
9	Scallop Trawl	AA	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
10	Scallop Trawl	AA	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
11	Scallop Trawl	OPEN	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
12	Scallop Trawl	OPEN	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
13	Otter Trawl, Ruhle	OPEN	all	NE	lg		UNKNOWN	MET
14	Otter Trawl, Haddock Separator	OPEN	all	NE	lg			MET
15	Shrimp Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
16	Shrimp Trawl	OPEN	all	NE	all	MET	MET	MET
17	Floating Trap	OPEN	all	MA	all		UNKNOWN	UNKNOWN
18	Floating Trap	OPEN	all	NE	all		UNKNOWN	UNKNOWN
19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	NOT MET	NOT MET	UNKNOWN
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	NOT MET	UNKNOWN	NOT MET
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	NOT MET	NOT MET	NOT MET
22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	UNKNOWN	UNKNOWN	UNKNOWN
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	NOT MET	NOT MET	NOT MET
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	MET	NOT MET	NOT MET
25	Purse Seine	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
26	Purse Seine	OPEN	all	NE	all	MET	MET	MET
27	Scallop Dredge	AA	GEN	MA	all	MET	MET	UNKNOWN
28	Scallop Dredge	AA	GEN	NE	all	MET	MET	UNKNOWN
29	Scallop Dredge	AA	LIM	MA	all	MET	MET	MET
30	Scallop Dredge	AA	LIM	NE	all	MET	MET	NOT MET
31	Scallop Dredge	OPEN	GEN	MA	all	MET	NOT MET	MET
32	Scallop Dredge	OPEN	GEN	NE	all	MET	MET	MET
33	Scallop Dredge	OPEN	LIM	MA	all	MET	MET	MET
34	Scallop Dredge	OPEN	LIM	NE	all	NOT MET	MET	NOT MET
35	Mid-water paired & single Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
36	Mid-water paired & single Trawl	OPEN	all	NE	all	NOT MET	MET	NOT MET
37	Pots and Traps, Fish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
38	Pots and Traps, Fish	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
39	Pots and Traps, Conch	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: BLUEFISH

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
40	Pots and Traps, Conch	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
41	Pots and Traps, Hagfish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
42	Pots and Traps, Hagfish	OPEN	all	NE	all	MET	MET	MET
43	Pots and Traps, Shrimp	OPEN	all	NE	all		UNKNOWN	UNKNOWN
44	Pots and Traps, Lobster	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
45	Pots and Traps, Lobster	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
46	Pots and Traps, Crab	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
47	Pots and Traps, Crab	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
48	Beam Trawl	OPEN	all	MA	all		UNKNOWN	UNKNOWN
49	Beam Trawl	OPEN	all	NE	all		UNKNOWN	UNKNOWN
50	Dredge, Other	OPEN	all	MA	all		UNKNOWN	UNKNOWN
51	Ocean Quahog/Surf Clam Dredge	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
52	Ocean Quahog/Surf Clam Dredge	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: FLUKE - SCUP - BLACK SEA BASS

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
1	Longline	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
2	Longline	OPEN	all	NE	all	MET	MET	NOT MET
3	Hand Line	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
4	Hand Line	OPEN	all	NE	all	UNKNOWN	MET	MET
5	Otter Trawl	OPEN	all	MA	sm	NOT MET	NOT MET	MET
6	Otter Trawl	OPEN	all	MA	lg	MET	NOT MET	MET
7	Otter Trawl	OPEN	all	NE	sm	NOT MET	NOT MET	MET
8	Otter Trawl	OPEN	all	NE	lg	MET	MET	MET
9	Scallop Trawl	AA	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
10	Scallop Trawl	AA	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
11	Scallop Trawl	OPEN	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
12	Scallop Trawl	OPEN	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
13	Otter Trawl, Ruhle	OPEN	all	NE	lg		UNKNOWN	MET
14	Otter Trawl, Haddock Separator	OPEN	all	NE	lg			MET
15	Shrimp Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
16	Shrimp Trawl	OPEN	all	NE	all	MET	MET	NOT MET
17	Floating Trap	OPEN	all	MA	all		UNKNOWN	UNKNOWN
18	Floating Trap	OPEN	all	NE	all		UNKNOWN	UNKNOWN
19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	NOT MET	NOT MET	UNKNOWN
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	MET	UNKNOWN	MET
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	NOT MET	NOT MET	NOT MET
22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	UNKNOWN	UNKNOWN	UNKNOWN
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	NOT MET	NOT MET	NOT MET
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	MET	NOT MET	NOT MET
25	Purse Seine	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
26	Purse Seine	OPEN	all	NE	all	MET	MET	MET
27	Scallop Dredge	AA	GEN	MA	all	NOT MET	MET	UNKNOWN
28	Scallop Dredge	AA	GEN	NE	all	MET	MET	UNKNOWN
29	Scallop Dredge	AA	LIM	MA	all	NOT MET	MET	NOT MET
30	Scallop Dredge	AA	LIM	NE	all	MET	MET	MET
31	Scallop Dredge	OPEN	GEN	MA	all	NOT MET	NOT MET	NOT MET
32	Scallop Dredge	OPEN	GEN	NE	all	NOT MET	NOT MET	NOT MET
33	Scallop Dredge	OPEN	LIM	MA	all	MET	MET	MET
34	Scallop Dredge	OPEN	LIM	NE	all	MET	MET	MET
35	Mid-water paired & single Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
36	Mid-water paired & single Trawl	OPEN	all	NE	all	NOT MET	NOT MET	MET
37	Pots and Traps, Fish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: FLUKE - SCUP - BLACK SEA BASS

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
38	Pots and Traps, Fish	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
39	Pots and Traps, Conch	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
40	Pots and Traps, Conch	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
41	Pots and Traps, Hagfish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
42	Pots and Traps, Hagfish	OPEN	all	NE	all	MET	MET	MET
43	Pots and Traps, Shrimp	OPEN	all	NE	all		UNKNOWN	UNKNOWN
44	Pots and Traps, Lobster	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
45	Pots and Traps, Lobster	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
46	Pots and Traps, Crab	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
47	Pots and Traps, Crab	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
48	Beam Trawl	OPEN	all	MA	all		UNKNOWN	UNKNOWN
49	Beam Trawl	OPEN	all	NE	all		UNKNOWN	UNKNOWN
50	Dredge, Other	OPEN	all	MA	all		UNKNOWN	UNKNOWN
51	Ocean Quahog/Surf Clam Dredge	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
52	Ocean Quahog/Surf Clam Dredge	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: HERRING, ATLANTIC

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
1	Longline	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
2	Longline	OPEN	all	NE	all	MET	NOT MET	MET
3	Hand Line	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
4	Hand Line	OPEN	all	NE	all	UNKNOWN	MET	MET
5	Otter Trawl	OPEN	all	MA	sm	NOT MET	NOT MET	NOT MET
6	Otter Trawl	OPEN	all	MA	lg	NOT MET	NOT MET	NOT MET
7	Otter Trawl	OPEN	all	NE	sm	NOT MET	NOT MET	NOT MET
8	Otter Trawl	OPEN	all	NE	lg	MET	MET	MET
9	Scallop Trawl	AA	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
10	Scallop Trawl	AA	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
11	Scallop Trawl	OPEN	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
12	Scallop Trawl	OPEN	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
13	Otter Trawl, Ruhle	OPEN	all	NE	lg		UNKNOWN	MET
14	Otter Trawl, Haddock Separator	OPEN	all	NE	lg			MET
15	Shrimp Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
16	Shrimp Trawl	OPEN	all	NE	all	NOT MET	NOT MET	NOT MET
17	Floating Trap	OPEN	all	MA	all		UNKNOWN	UNKNOWN
18	Floating Trap	OPEN	all	NE	all		UNKNOWN	UNKNOWN
19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	MET	MET	UNKNOWN
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	MET	UNKNOWN	MET
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	NOT MET	MET	MET
22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	UNKNOWN	UNKNOWN	UNKNOWN
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	NOT MET	NOT MET	NOT MET
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	MET	NOT MET	NOT MET
25	Purse Seine	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
26	Purse Seine	OPEN	all	NE	all	NOT MET	NOT MET	NOT MET
27	Scallop Dredge	AA	GEN	MA	all	MET	MET	UNKNOWN
28	Scallop Dredge	AA	GEN	NE	all	MET	MET	UNKNOWN
29	Scallop Dredge	AA	LIM	MA	all	MET	MET	MET
30	Scallop Dredge	AA	LIM	NE	all	MET	NOT MET	MET
31	Scallop Dredge	OPEN	GEN	MA	all	MET	MET	MET
32	Scallop Dredge	OPEN	GEN	NE	all	MET	MET	MET
33	Scallop Dredge	OPEN	LIM	MA	all	NOT MET	NOT MET	MET
34	Scallop Dredge	OPEN	LIM	NE	all	NOT MET	MET	NOT MET
35	Mid-water paired & single Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
36	Mid-water paired & single Trawl	OPEN	all	NE	all	NOT MET	NOT MET	NOT MET
37	Pots and Traps, Fish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
38	Pots and Traps, Fish	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: HERRING, ATLANTIC

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
39	Pots and Traps, Conch	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
40	Pots and Traps, Conch	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
41	Pots and Traps, Hagfish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
42	Pots and Traps, Hagfish	OPEN	all	NE	all	MET	MET	MET
43	Pots and Traps, Shrimp	OPEN	all	NE	all		UNKNOWN	UNKNOWN
44	Pots and Traps, Lobster	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
45	Pots and Traps, Lobster	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
46	Pots and Traps, Crab	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
47	Pots and Traps, Crab	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
48	Beam Trawl	OPEN	all	MA	all		UNKNOWN	UNKNOWN
49	Beam Trawl	OPEN	all	NE	all		UNKNOWN	UNKNOWN
50	Dredge, Other	OPEN	all	MA	all		UNKNOWN	UNKNOWN
51	Ocean Quahog/Surf Clam Dredge	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
52	Ocean Quahog/Surf Clam Dredge	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: LARGE MESH GROUNDFISH

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
1	Longline	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
2	Longline	OPEN	all	NE	all	NOT MET	MET	MET
3	Hand Line	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
4	Hand Line	OPEN	all	NE	all	UNKNOWN	NOT MET	NOT MET
5	Otter Trawl	OPEN	all	MA	sm	NOT MET	NOT MET	MET
6	Otter Trawl	OPEN	all	MA	lg	NOT MET	MET	MET
7	Otter Trawl	OPEN	all	NE	sm	NOT MET	NOT MET	NOT MET
8	Otter Trawl	OPEN	all	NE	lg	MET	MET	MET
9	Scallop Trawl	AA	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
10	Scallop Trawl	AA	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
11	Scallop Trawl	OPEN	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
12	Scallop Trawl	OPEN	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
13	Otter Trawl, Ruhle	OPEN	all	NE	lg		UNKNOWN	MET
14	Otter Trawl, Haddock Separator	OPEN	all	NE	lg			MET
15	Shrimp Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
16	Shrimp Trawl	OPEN	all	NE	all	NOT MET	MET	MET
17	Floating Trap	OPEN	all	MA	all		UNKNOWN	UNKNOWN
18	Floating Trap	OPEN	all	NE	all		UNKNOWN	UNKNOWN
19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	NOT MET	MET	UNKNOWN
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	NOT MET	UNKNOWN	NOT MET
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	MET	MET	NOT MET
22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	UNKNOWN	UNKNOWN	UNKNOWN
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	MET	MET	MET
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	NOT MET	NOT MET	NOT MET
25	Purse Seine	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
26	Purse Seine	OPEN	all	NE	all	MET	MET	NOT MET
27	Scallop Dredge	AA	GEN	MA	all	MET	MET	UNKNOWN
28	Scallop Dredge	AA	GEN	NE	all	MET	MET	UNKNOWN
29	Scallop Dredge	AA	LIM	MA	all	NOT MET	NOT MET	NOT MET
30	Scallop Dredge	AA	LIM	NE	all	MET	MET	NOT MET
31	Scallop Dredge	OPEN	GEN	MA	all	NOT MET	NOT MET	MET
32	Scallop Dredge	OPEN	GEN	NE	all	NOT MET	NOT MET	NOT MET
33	Scallop Dredge	OPEN	LIM	MA	all	MET	MET	NOT MET
34	Scallop Dredge	OPEN	LIM	NE	all	MET	MET	MET
35	Mid-water paired & single Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
36	Mid-water paired & single Trawl	OPEN	all	NE	all	NOT MET	NOT MET	NOT MET
37	Pots and Traps, Fish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
38	Pots and Traps, Fish	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: LARGE MESH GROUNDFISH

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
39	Pots and Traps, Conch	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
40	Pots and Traps, Conch	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
41	Pots and Traps, Hagfish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
42	Pots and Traps, Hagfish	OPEN	all	NE	all	NOT MET	MET	MET
43	Pots and Traps, Shrimp	OPEN	all	NE	all		UNKNOWN	UNKNOWN
44	Pots and Traps, Lobster	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
45	Pots and Traps, Lobster	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
46	Pots and Traps, Crab	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
47	Pots and Traps, Crab	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
48	Beam Trawl	OPEN	all	MA	all		UNKNOWN	UNKNOWN
49	Beam Trawl	OPEN	all	NE	all		UNKNOWN	UNKNOWN
50	Dredge, Other	OPEN	all	MA	all		UNKNOWN	UNKNOWN
51	Ocean Quahog/Surf Clam Dredge	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
52	Ocean Quahog/Surf Clam Dredge	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: MONKFISH

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
1	Longline	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
2	Longline	OPEN	all	NE	all	NOT MET	NOT MET	NOT MET
3	Hand Line	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
4	Hand Line	OPEN	all	NE	all	UNKNOWN	MET	MET
5	Otter Trawl	OPEN	all	MA	sm	NOT MET	NOT MET	NOT MET
6	Otter Trawl	OPEN	all	MA	lg	NOT MET	MET	MET
7	Otter Trawl	OPEN	all	NE	sm	NOT MET	NOT MET	NOT MET
8	Otter Trawl	OPEN	all	NE	lg	MET	MET	MET
9	Scallop Trawl	AA	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
10	Scallop Trawl	AA	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
11	Scallop Trawl	OPEN	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
12	Scallop Trawl	OPEN	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
13	Otter Trawl, Ruhle	OPEN	all	NE	lg		UNKNOWN	MET
14	Otter Trawl, Haddock Separator	OPEN	all	NE	lg			MET
15	Shrimp Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
16	Shrimp Trawl	OPEN	all	NE	all	NOT MET	NOT MET	NOT MET
17	Floating Trap	OPEN	all	MA	all		UNKNOWN	UNKNOWN
18	Floating Trap	OPEN	all	NE	all		UNKNOWN	UNKNOWN
19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	MET	MET	UNKNOWN
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	MET	UNKNOWN	NOT MET
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	NOT MET	MET	NOT MET
22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	UNKNOWN	UNKNOWN	UNKNOWN
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	MET	NOT MET	MET
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	MET	MET	MET
25	Purse Seine	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
26	Purse Seine	OPEN	all	NE	all	MET	NOT MET	NOT MET
27	Scallop Dredge	AA	GEN	MA	all	MET	MET	UNKNOWN
28	Scallop Dredge	AA	GEN	NE	all	MET	MET	UNKNOWN
29	Scallop Dredge	AA	LIM	MA	all	MET	MET	MET
30	Scallop Dredge	AA	LIM	NE	all	MET	MET	MET
31	Scallop Dredge	OPEN	GEN	MA	all	NOT MET	MET	NOT MET
32	Scallop Dredge	OPEN	GEN	NE	all	NOT MET	NOT MET	NOT MET
33	Scallop Dredge	OPEN	LIM	MA	all	MET	MET	MET
34	Scallop Dredge	OPEN	LIM	NE	all	MET	MET	MET
35	Mid-water paired & single Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
36	Mid-water paired & single Trawl	OPEN	all	NE	all	NOT MET	NOT MET	NOT MET
37	Pots and Traps, Fish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
38	Pots and Traps, Fish	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: MONKFISH

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
39	Pots and Traps, Conch	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
40	Pots and Traps, Conch	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
41	Pots and Traps, Hagfish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
42	Pots and Traps, Hagfish	OPEN	all	NE	all	MET	MET	MET
43	Pots and Traps, Shrimp	OPEN	all	NE	all		UNKNOWN	UNKNOWN
44	Pots and Traps, Lobster	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
45	Pots and Traps, Lobster	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
46	Pots and Traps, Crab	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
47	Pots and Traps, Crab	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
48	Beam Trawl	OPEN	all	MA	all		UNKNOWN	UNKNOWN
49	Beam Trawl	OPEN	all	NE	all		UNKNOWN	UNKNOWN
50	Dredge, Other	OPEN	all	MA	all		UNKNOWN	UNKNOWN
51	Ocean Quahog/Surf Clam Dredge	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
52	Ocean Quahog/Surf Clam Dredge	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met")for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: RED CRAB

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
1	Longline	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
2	Longline	OPEN	all	NE	all	MET	MET	MET
3	Hand Line	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
4	Hand Line	OPEN	all	NE	all	UNKNOWN	MET	MET
5	Otter Trawl	OPEN	all	MA	sm	MET	NOT MET	NOT MET
6	Otter Trawl	OPEN	all	MA	lg	NOT MET	NOT MET	NOT MET
7	Otter Trawl	OPEN	all	NE	sm	MET	NOT MET	NOT MET
8	Otter Trawl	OPEN	all	NE	lg	MET	MET	NOT MET
9	Scallop Trawl	AA	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
10	Scallop Trawl	AA	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
11	Scallop Trawl	OPEN	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
12	Scallop Trawl	OPEN	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
13	Otter Trawl, Ruhle	OPEN	all	NE	lg		UNKNOWN	MET
14	Otter Trawl, Haddock Separator	OPEN	all	NE	lg			MET
15	Shrimp Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
16	Shrimp Trawl	OPEN	all	NE	all	MET	NOT MET	MET
17	Floating Trap	OPEN	all	MA	all		UNKNOWN	UNKNOWN
18	Floating Trap	OPEN	all	NE	all		UNKNOWN	UNKNOWN
19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	MET	NOT MET	UNKNOWN
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	MET	UNKNOWN	MET
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	MET	MET	MET
22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	UNKNOWN	UNKNOWN	UNKNOWN
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	NOT MET	NOT MET	NOT MET
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	MET	NOT MET	NOT MET
25	Purse Seine	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
26	Purse Seine	OPEN	all	NE	all	MET	MET	MET
27	Scallop Dredge	AA	GEN	MA	all	MET	MET	UNKNOWN
28	Scallop Dredge	AA	GEN	NE	all	NOT MET	MET	UNKNOWN
29	Scallop Dredge	AA	LIM	MA	all	MET	MET	MET
30	Scallop Dredge	AA	LIM	NE	all	NOT MET	MET	MET
31	Scallop Dredge	OPEN	GEN	MA	all	MET	MET	NOT MET
32	Scallop Dredge	OPEN	GEN	NE	all	MET	MET	MET
33	Scallop Dredge	OPEN	LIM	MA	all	MET	MET	NOT MET
34	Scallop Dredge	OPEN	LIM	NE	all	NOT MET	NOT MET	NOT MET
35	Mid-water paired & single Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
36	Mid-water paired & single Trawl	OPEN	all	NE	all	MET	MET	MET
37	Pots and Traps, Fish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
38	Pots and Traps, Fish	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard esti.mate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification (“Unknown,” “Met,” and “Not Met”)for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses (“Not Applicable”). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: RED CRAB

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
39	Pots and Traps, Conch	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
40	Pots and Traps, Conch	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
41	Pots and Traps, Hagfish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
42	Pots and Traps, Hagfish	OPEN	all	NE	all	MET	MET	MET
43	Pots and Traps, Shrimp	OPEN	all	NE	all		UNKNOWN	UNKNOWN
44	Pots and Traps, Lobster	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
45	Pots and Traps, Lobster	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
46	Pots and Traps, Crab	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
47	Pots and Traps, Crab	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
48	Beam Trawl	OPEN	all	MA	all		UNKNOWN	UNKNOWN
49	Beam Trawl	OPEN	all	NE	all		UNKNOWN	UNKNOWN
50	Dredge, Other	OPEN	all	MA	all		UNKNOWN	UNKNOWN
51	Ocean Quahog/Surf Clam Dredge	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
52	Ocean Quahog/Surf Clam Dredge	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents “Not Applicable” cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents “Not Applicable” cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard esti.mate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: SEA SCALLOP

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
1	Longline	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
2	Longline	OPEN	all	NE	all	NOT MET	NOT MET	NOT MET
3	Hand Line	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
4	Hand Line	OPEN	all	NE	all	UNKNOWN	MET	MET
5	Otter Trawl	OPEN	all	MA	sm	NOT MET	NOT MET	NOT MET
6	Otter Trawl	OPEN	all	MA	lg	NOT MET	MET	MET
7	Otter Trawl	OPEN	all	NE	sm	NOT MET	NOT MET	NOT MET
8	Otter Trawl	OPEN	all	NE	lg	MET	MET	MET
9	Scallop Trawl	AA	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
10	Scallop Trawl	AA	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
11	Scallop Trawl	OPEN	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
12	Scallop Trawl	OPEN	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
13	Otter Trawl, Ruhle	OPEN	all	NE	lg		UNKNOWN	MET
14	Otter Trawl, Haddock Separator	OPEN	all	NE	lg			MET
15	Shrimp Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
16	Shrimp Trawl	OPEN	all	NE	all	NOT MET	NOT MET	NOT MET
17	Floating Trap	OPEN	all	MA	all		UNKNOWN	UNKNOWN
18	Floating Trap	OPEN	all	NE	all		UNKNOWN	UNKNOWN
19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	MET	MET	UNKNOWN
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	MET	UNKNOWN	MET
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	NOT MET	NOT MET	NOT MET
22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	UNKNOWN	UNKNOWN	UNKNOWN
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	NOT MET	MET	NOT MET
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	NOT MET	NOT MET	NOT MET
25	Purse Seine	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
26	Purse Seine	OPEN	all	NE	all	MET	NOT MET	MET
27	Scallop Dredge	AA	GEN	MA	all	MET	MET	UNKNOWN
28	Scallop Dredge	AA	GEN	NE	all	MET	MET	UNKNOWN
29	Scallop Dredge	AA	LIM	MA	all	NOT MET	MET	NOT MET
30	Scallop Dredge	AA	LIM	NE	all	MET	MET	NOT MET
31	Scallop Dredge	OPEN	GEN	MA	all	NOT MET	MET	NOT MET
32	Scallop Dredge	OPEN	GEN	NE	all	NOT MET	NOT MET	NOT MET
33	Scallop Dredge	OPEN	LIM	MA	all	NOT MET	MET	NOT MET
34	Scallop Dredge	OPEN	LIM	NE	all	MET	MET	MET
35	Mid-water paired & single Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
36	Mid-water paired & single Trawl	OPEN	all	NE	all	MET	MET	MET
37	Pots and Traps, Fish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
38	Pots and Traps, Fish	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: SEA SCALLOP

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
39	Pots and Traps, Conch	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
40	Pots and Traps, Conch	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
41	Pots and Traps, Hagfish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
42	Pots and Traps, Hagfish	OPEN	all	NE	all	MET	MET	MET
43	Pots and Traps, Shrimp	OPEN	all	NE	all		UNKNOWN	UNKNOWN
44	Pots and Traps, Lobster	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
45	Pots and Traps, Lobster	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
46	Pots and Traps, Crab	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
47	Pots and Traps, Crab	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
48	Beam Trawl	OPEN	all	MA	all		UNKNOWN	UNKNOWN
49	Beam Trawl	OPEN	all	NE	all		UNKNOWN	UNKNOWN
50	Dredge, Other	OPEN	all	MA	all		UNKNOWN	UNKNOWN
51	Ocean Quahog/Surf Clam Dredge	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
52	Ocean Quahog/Surf Clam Dredge	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: SKATE COMPLEX

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
1	Longline	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
2	Longline	OPEN	all	NE	all	NOT MET	MET	MET
3	Hand Line	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
4	Hand Line	OPEN	all	NE	all	UNKNOWN	NOT MET	MET
5	Otter Trawl	OPEN	all	MA	sm	MET	NOT MET	MET
6	Otter Trawl	OPEN	all	MA	lg	MET	MET	MET
7	Otter Trawl	OPEN	all	NE	sm	NOT MET	NOT MET	NOT MET
8	Otter Trawl	OPEN	all	NE	lg	MET	MET	MET
9	Scallop Trawl	AA	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
10	Scallop Trawl	AA	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
11	Scallop Trawl	OPEN	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
12	Scallop Trawl	OPEN	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
13	Otter Trawl, Ruhle	OPEN	all	NE	lg		UNKNOWN	MET
14	Otter Trawl, Haddock Separator	OPEN	all	NE	lg			MET
15	Shrimp Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
16	Shrimp Trawl	OPEN	all	NE	all	NOT MET	NOT MET	NOT MET
17	Floating Trap	OPEN	all	MA	all		UNKNOWN	UNKNOWN
18	Floating Trap	OPEN	all	NE	all		UNKNOWN	UNKNOWN
19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	NOT MET	MET	UNKNOWN
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	NOT MET	UNKNOWN	NOT MET
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	NOT MET	NOT MET	NOT MET
22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	UNKNOWN	UNKNOWN	UNKNOWN
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	MET	MET	MET
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	MET	MET	MET
25	Purse Seine	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
26	Purse Seine	OPEN	all	NE	all	MET	NOT MET	MET
27	Scallop Dredge	AA	GEN	MA	all	MET	MET	UNKNOWN
28	Scallop Dredge	AA	GEN	NE	all	MET	MET	UNKNOWN
29	Scallop Dredge	AA	LIM	MA	all	NOT MET	MET	MET
30	Scallop Dredge	AA	LIM	NE	all	MET	MET	MET
31	Scallop Dredge	OPEN	GEN	MA	all	MET	NOT MET	MET
32	Scallop Dredge	OPEN	GEN	NE	all	NOT MET	NOT MET	NOT MET
33	Scallop Dredge	OPEN	LIM	MA	all	MET	MET	MET
34	Scallop Dredge	OPEN	LIM	NE	all	MET	MET	MET
35	Mid-water paired & single Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
36	Mid-water paired & single Trawl	OPEN	all	NE	all	NOT MET	NOT MET	NOT MET
37	Pots and Traps, Fish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
38	Pots and Traps, Fish	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
39	Pots and Traps, Conch	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: SKATE COMPLEX

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
40	Pots and Traps, Conch	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
41	Pots and Traps, Hagfish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
42	Pots and Traps, Hagfish	OPEN	all	NE	all	MET	MET	MET
43	Pots and Traps, Shrimp	OPEN	all	NE	all		UNKNOWN	UNKNOWN
44	Pots and Traps, Lobster	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
45	Pots and Traps, Lobster	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
46	Pots and Traps, Crab	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
47	Pots and Traps, Crab	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
48	Beam Trawl	OPEN	all	MA	all		UNKNOWN	UNKNOWN
49	Beam Trawl	OPEN	all	NE	all		UNKNOWN	UNKNOWN
50	Dredge, Other	OPEN	all	MA	all		UNKNOWN	UNKNOWN
51	Ocean Quahog/Surf Clam Dredge	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
52	Ocean Quahog/Surf Clam Dredge	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: SMALL MESH GROUNDFISH

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
1	Longline	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
2	Longline	OPEN	all	NE	all	MET	NOT MET	NOT MET
3	Hand Line	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
4	Hand Line	OPEN	all	NE	all	UNKNOWN	MET	MET
5	Otter Trawl	OPEN	all	MA	sm	NOT MET	NOT MET	NOT MET
6	Otter Trawl	OPEN	all	MA	lg	NOT MET	NOT MET	NOT MET
7	Otter Trawl	OPEN	all	NE	sm	NOT MET	NOT MET	NOT MET
8	Otter Trawl	OPEN	all	NE	lg	MET	MET	MET
9	Scallop Trawl	AA	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
10	Scallop Trawl	AA	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
11	Scallop Trawl	OPEN	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
12	Scallop Trawl	OPEN	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
13	Otter Trawl, Ruhle	OPEN	all	NE	lg		UNKNOWN	MET
14	Otter Trawl, Haddock Separator	OPEN	all	NE	lg			MET
15	Shrimp Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
16	Shrimp Trawl	OPEN	all	NE	all	NOT MET	NOT MET	MET
17	Floating Trap	OPEN	all	MA	all		UNKNOWN	UNKNOWN
18	Floating Trap	OPEN	all	NE	all		UNKNOWN	UNKNOWN
19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	MET	MET	UNKNOWN
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	MET	UNKNOWN	MET
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	MET	NOT MET	MET
22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	UNKNOWN	UNKNOWN	UNKNOWN
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	NOT MET	NOT MET	MET
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	NOT MET	NOT MET	NOT MET
25	Purse Seine	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
26	Purse Seine	OPEN	all	NE	all	NOT MET	MET	NOT MET
27	Scallop Dredge	AA	GEN	MA	all	MET	NOT MET	UNKNOWN
28	Scallop Dredge	AA	GEN	NE	all	MET	MET	UNKNOWN
29	Scallop Dredge	AA	LIM	MA	all	MET	MET	NOT MET
30	Scallop Dredge	AA	LIM	NE	all	MET	MET	NOT MET
31	Scallop Dredge	OPEN	GEN	MA	all	NOT MET	NOT MET	NOT MET
32	Scallop Dredge	OPEN	GEN	NE	all	NOT MET	NOT MET	NOT MET
33	Scallop Dredge	OPEN	LIM	MA	all	MET	MET	NOT MET
34	Scallop Dredge	OPEN	LIM	NE	all	MET	MET	MET
35	Mid-water paired & single Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
36	Mid-water paired & single Trawl	OPEN	all	NE	all	NOT MET	NOT MET	NOT MET
37	Pots and Traps, Fish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
38	Pots and Traps, Fish	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: SMALL MESH GROUNDFISH

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
39	Pots and Traps, Conch	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
40	Pots and Traps, Conch	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
41	Pots and Traps, Hagfish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
42	Pots and Traps, Hagfish	OPEN	all	NE	all	NOT MET	NOT MET	MET
43	Pots and Traps, Shrimp	OPEN	all	NE	all		UNKNOWN	UNKNOWN
44	Pots and Traps, Lobster	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
45	Pots and Traps, Lobster	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
46	Pots and Traps, Crab	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
47	Pots and Traps, Crab	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
48	Beam Trawl	OPEN	all	MA	all		UNKNOWN	UNKNOWN
49	Beam Trawl	OPEN	all	NE	all		UNKNOWN	UNKNOWN
50	Dredge, Other	OPEN	all	MA	all		UNKNOWN	UNKNOWN
51	Ocean Quahog/Surf Clam Dredge	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
52	Ocean Quahog/Surf Clam Dredge	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: SPINY DOGFISH

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
1	Longline	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
2	Longline	OPEN	all	NE	all	NOT MET	MET	NOT MET
3	Hand Line	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
4	Hand Line	OPEN	all	NE	all	UNKNOWN	NOT MET	MET
5	Otter Trawl	OPEN	all	MA	sm	NOT MET	NOT MET	MET
6	Otter Trawl	OPEN	all	MA	lg	MET	NOT MET	MET
7	Otter Trawl	OPEN	all	NE	sm	NOT MET	NOT MET	MET
8	Otter Trawl	OPEN	all	NE	lg	MET	MET	MET
9	Scallop Trawl	AA	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
10	Scallop Trawl	AA	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
11	Scallop Trawl	OPEN	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
12	Scallop Trawl	OPEN	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
13	Otter Trawl, Ruhle	OPEN	all	NE	lg		UNKNOWN	MET
14	Otter Trawl, Haddock Separator	OPEN	all	NE	lg			MET
15	Shrimp Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
16	Shrimp Trawl	OPEN	all	NE	all	MET	NOT MET	NOT MET
17	Floating Trap	OPEN	all	MA	all		UNKNOWN	UNKNOWN
18	Floating Trap	OPEN	all	NE	all		UNKNOWN	UNKNOWN
19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	NOT MET	NOT MET	UNKNOWN
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	NOT MET	UNKNOWN	NOT MET
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	NOT MET	MET	NOT MET
22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	UNKNOWN	UNKNOWN	UNKNOWN
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	MET	MET	MET
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	MET	MET	MET
25	Purse Seine	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
26	Purse Seine	OPEN	all	NE	all	NOT MET	NOT MET	NOT MET
27	Scallop Dredge	AA	GEN	MA	all	NOT MET	MET	UNKNOWN
28	Scallop Dredge	AA	GEN	NE	all	NOT MET	NOT MET	UNKNOWN
29	Scallop Dredge	AA	LIM	MA	all	MET	MET	NOT MET
30	Scallop Dredge	AA	LIM	NE	all	MET	MET	MET
31	Scallop Dredge	OPEN	GEN	MA	all	NOT MET	NOT MET	NOT MET
32	Scallop Dredge	OPEN	GEN	NE	all	MET	NOT MET	NOT MET
33	Scallop Dredge	OPEN	LIM	MA	all	MET	MET	NOT MET
34	Scallop Dredge	OPEN	LIM	NE	all	MET	MET	MET
35	Mid-water paired & single Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
36	Mid-water paired & single Trawl	OPEN	all	NE	all	NOT MET	MET	MET
37	Pots and Traps, Fish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
38	Pots and Traps, Fish	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: SPINY DOGFISH

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
39	Pots and Traps, Conch	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
40	Pots and Traps, Conch	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
41	Pots and Traps, Hagfish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
42	Pots and Traps, Hagfish	OPEN	all	NE	all	MET	MET	MET
43	Pots and Traps, Shrimp	OPEN	all	NE	all		UNKNOWN	UNKNOWN
44	Pots and Traps, Lobster	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
45	Pots and Traps, Lobster	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
46	Pots and Traps, Crab	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
47	Pots and Traps, Crab	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
48	Beam Trawl	OPEN	all	MA	all		UNKNOWN	UNKNOWN
49	Beam Trawl	OPEN	all	NE	all		UNKNOWN	UNKNOWN
50	Dredge, Other	OPEN	all	MA	all		UNKNOWN	UNKNOWN
51	Ocean Quahog/Surf Clam Dredge	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
52	Ocean Quahog/Surf Clam Dredge	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met, and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: SQUID - BUTTERFISH - MACKEREL

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
1	Longline	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
2	Longline	OPEN	all	NE	all	MET	MET	MET
3	Hand Line	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
4	Hand Line	OPEN	all	NE	all	UNKNOWN	MET	MET
5	Otter Trawl	OPEN	all	MA	sm	NOT MET	NOT MET	NOT MET
6	Otter Trawl	OPEN	all	MA	lg	NOT MET	NOT MET	MET
7	Otter Trawl	OPEN	all	NE	sm	NOT MET	NOT MET	NOT MET
8	Otter Trawl	OPEN	all	NE	lg	MET	MET	MET
9	Scallop Trawl	AA	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
10	Scallop Trawl	AA	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
11	Scallop Trawl	OPEN	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
12	Scallop Trawl	OPEN	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
13	Otter Trawl, Ruhle	OPEN	all	NE	lg		UNKNOWN	MET
14	Otter Trawl, Haddock Separator	OPEN	all	NE	lg			MET
15	Shrimp Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
16	Shrimp Trawl	OPEN	all	NE	all	MET	NOT MET	NOT MET
17	Floating Trap	OPEN	all	MA	all		UNKNOWN	UNKNOWN
18	Floating Trap	OPEN	all	NE	all		UNKNOWN	UNKNOWN
19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	MET	MET	UNKNOWN
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	NOT MET	UNKNOWN	MET
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	NOT MET	NOT MET	MET
22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	UNKNOWN	UNKNOWN	UNKNOWN
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	NOT MET	MET	MET
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	NOT MET	NOT MET	NOT MET
25	Purse Seine	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
26	Purse Seine	OPEN	all	NE	all	NOT MET	NOT MET	NOT MET
27	Scallop Dredge	AA	GEN	MA	all	NOT MET	NOT MET	UNKNOWN
28	Scallop Dredge	AA	GEN	NE	all	MET	MET	UNKNOWN
29	Scallop Dredge	AA	LIM	MA	all	NOT MET	MET	NOT MET
30	Scallop Dredge	AA	LIM	NE	all	MET	MET	NOT MET
31	Scallop Dredge	OPEN	GEN	MA	all	NOT MET	NOT MET	NOT MET
32	Scallop Dredge	OPEN	GEN	NE	all	NOT MET	MET	NOT MET
33	Scallop Dredge	OPEN	LIM	MA	all	NOT MET	NOT MET	NOT MET
34	Scallop Dredge	OPEN	LIM	NE	all	NOT MET	NOT MET	NOT MET
35	Mid-water paired & single Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
36	Mid-water paired & single Trawl	OPEN	all	NE	all	NOT MET	NOT MET	NOT MET
37	Pots and Traps, Fish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
38	Pots and Traps, Fish	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met, and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: SQUID - BUTTERFISH - MACKEREL

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
39	Pots and Traps, Conch	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
40	Pots and Traps, Conch	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
41	Pots and Traps, Hagfish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
42	Pots and Traps, Hagfish	OPEN	all	NE	all	NOT MET	MET	MET
43	Pots and Traps, Shrimp	OPEN	all	NE	all		UNKNOWN	UNKNOWN
44	Pots and Traps, Lobster	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
45	Pots and Traps, Lobster	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
46	Pots and Traps, Crab	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
47	Pots and Traps, Crab	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
48	Beam Trawl	OPEN	all	MA	all		UNKNOWN	UNKNOWN
49	Beam Trawl	OPEN	all	NE	all		UNKNOWN	UNKNOWN
50	Dredge, Other	OPEN	all	MA	all		UNKNOWN	UNKNOWN
51	Ocean Quahog/Surf Clam Dredge	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
52	Ocean Quahog/Surf Clam Dredge	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: SURFCLAM - OCEAN QUAHOG

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
1	Longline	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
2	Longline	OPEN	all	NE	all	NOT MET	MET	MET
3	Hand Line	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
4	Hand Line	OPEN	all	NE	all	UNKNOWN	MET	MET
5	Otter Trawl	OPEN	all	MA	sm	NOT MET	NOT MET	NOT MET
6	Otter Trawl	OPEN	all	MA	lg	NOT MET	NOT MET	NOT MET
7	Otter Trawl	OPEN	all	NE	sm	NOT MET	NOT MET	NOT MET
8	Otter Trawl	OPEN	all	NE	lg	NOT MET	NOT MET	NOT MET
9	Scallop Trawl	AA	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
10	Scallop Trawl	AA	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
11	Scallop Trawl	OPEN	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
12	Scallop Trawl	OPEN	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
13	Otter Trawl, Ruhle	OPEN	all	NE	lg		UNKNOWN	MET
14	Otter Trawl, Haddock Separator	OPEN	all	NE	lg			MET
15	Shrimp Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
16	Shrimp Trawl	OPEN	all	NE	all	MET	MET	MET
17	Floating Trap	OPEN	all	MA	all		UNKNOWN	UNKNOWN
18	Floating Trap	OPEN	all	NE	all		UNKNOWN	UNKNOWN
19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	MET	MET	UNKNOWN
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	MET	UNKNOWN	MET
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	MET	MET	MET
22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	UNKNOWN	UNKNOWN	UNKNOWN
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	MET	MET	MET
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	NOT MET	MET	MET
25	Purse Seine	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
26	Purse Seine	OPEN	all	NE	all	MET	MET	MET
27	Scallop Dredge	AA	GEN	MA	all	NOT MET	NOT MET	UNKNOWN
28	Scallop Dredge	AA	GEN	NE	all	NOT MET	NOT MET	UNKNOWN
29	Scallop Dredge	AA	LIM	MA	all	NOT MET	NOT MET	NOT MET
30	Scallop Dredge	AA	LIM	NE	all	NOT MET	NOT MET	NOT MET
31	Scallop Dredge	OPEN	GEN	MA	all	NOT MET	NOT MET	NOT MET
32	Scallop Dredge	OPEN	GEN	NE	all	MET	NOT MET	MET
33	Scallop Dredge	OPEN	LIM	MA	all	NOT MET	NOT MET	NOT MET
34	Scallop Dredge	OPEN	LIM	NE	all	NOT MET	NOT MET	NOT MET
35	Mid-water paired & single Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
36	Mid-water paired & single Trawl	OPEN	all	NE	all	MET	MET	MET
37	Pots and Traps, Fish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
38	Pots and Traps, Fish	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: SURFCLAM - OCEAN QUAHOG

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
39	Pots and Traps, Conch	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
40	Pots and Traps, Conch	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
41	Pots and Traps, Hagfish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
42	Pots and Traps, Hagfish	OPEN	all	NE	all	MET	MET	MET
43	Pots and Traps, Shrimp	OPEN	all	NE	all		UNKNOWN	UNKNOWN
44	Pots and Traps, Lobster	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
45	Pots and Traps, Lobster	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
46	Pots and Traps, Crab	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
47	Pots and Traps, Crab	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
48	Beam Trawl	OPEN	all	MA	all		UNKNOWN	UNKNOWN
49	Beam Trawl	OPEN	all	NE	all		UNKNOWN	UNKNOWN
50	Dredge, Other	OPEN	all	MA	all		UNKNOWN	UNKNOWN
51	Ocean Quahog/Surf Clam Dredge	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
52	Ocean Quahog/Surf Clam Dredge	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group:TILEFISH

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
1	Longline	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
2	Longline	OPEN	all	NE	all	MET	MET	MET
3	Hand Line	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
4	Hand Line	OPEN	all	NE	all	UNKNOWN	MET	MET
5	Otter Trawl	OPEN	all	MA	sm	NOT MET	NOT MET	NOT MET
6	Otter Trawl	OPEN	all	MA	lg	MET	MET	NOT MET
7	Otter Trawl	OPEN	all	NE	sm	NOT MET	NOT MET	NOT MET
8	Otter Trawl	OPEN	all	NE	lg	NOT MET	NOT MET	NOT MET
9	Scallop Trawl	AA	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
10	Scallop Trawl	AA	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
11	Scallop Trawl	OPEN	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
12	Scallop Trawl	OPEN	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
13	Otter Trawl, Ruhle	OPEN	all	NE	lg		UNKNOWN	MET
14	Otter Trawl, Haddock Separator	OPEN	all	NE	lg			MET
15	Shrimp Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
16	Shrimp Trawl	OPEN	all	NE	all	MET	MET	MET
17	Floating Trap	OPEN	all	MA	all		UNKNOWN	UNKNOWN
18	Floating Trap	OPEN	all	NE	all		UNKNOWN	UNKNOWN
19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	MET	MET	UNKNOWN
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	MET	UNKNOWN	MET
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	MET	MET	MET
22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	UNKNOWN	UNKNOWN	UNKNOWN
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	MET	MET	MET
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	NOT MET	NOT MET	NOT MET
25	Purse Seine	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
26	Purse Seine	OPEN	all	NE	all	MET	MET	MET
27	Scallop Dredge	AA	GEN	MA	all	MET	MET	UNKNOWN
28	Scallop Dredge	AA	GEN	NE	all	MET	MET	UNKNOWN
29	Scallop Dredge	AA	LIM	MA	all	MET	MET	MET
30	Scallop Dredge	AA	LIM	NE	all	MET	MET	MET
31	Scallop Dredge	OPEN	GEN	MA	all	MET	MET	MET
32	Scallop Dredge	OPEN	GEN	NE	all	MET	MET	MET
33	Scallop Dredge	OPEN	LIM	MA	all	MET	MET	MET
34	Scallop Dredge	OPEN	LIM	NE	all	MET	MET	MET
35	Mid-water paired & single Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
36	Mid-water paired & single Trawl	OPEN	all	NE	all	MET	MET	MET
37	Pots and Traps, Fish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
38	Pots and Traps, Fish	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group:TILEFISH

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
39	Pots and Traps, Conch	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
40	Pots and Traps, Conch	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
41	Pots and Traps, Hagfish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
42	Pots and Traps, Hagfish	OPEN	all	NE	all	MET	MET	MET
43	Pots and Traps, Shrimp	OPEN	all	NE	all		UNKNOWN	UNKNOWN
44	Pots and Traps, Lobster	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
45	Pots and Traps, Lobster	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
46	Pots and Traps, Crab	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
47	Pots and Traps, Crab	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
48	Beam Trawl	OPEN	all	MA	all		UNKNOWN	UNKNOWN
49	Beam Trawl	OPEN	all	NE	all		UNKNOWN	UNKNOWN
50	Dredge, Other	OPEN	all	MA	all		UNKNOWN	UNKNOWN
51	Ocean Quahog/Surf Clam Dredge	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
52	Ocean Quahog/Surf Clam Dredge	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: SEA TURTLES

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
1	Longline	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
2	Longline	OPEN	all	NE	all	MET	MET	MET
3	Hand Line	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
4	Hand Line	OPEN	all	NE	all	UNKNOWN	MET	MET
5	Otter Trawl	OPEN	all	MA	sm	NOT MET	NOT MET	NOT MET
6	Otter Trawl	OPEN	all	MA	lg	NOT MET	MET	NOT MET
7	Otter Trawl	OPEN	all	NE	sm	MET	NOT MET	NOT MET
8	Otter Trawl	OPEN	all	NE	lg	MET	NOT MET	NOT MET
9	Scallop Trawl	AA	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
10	Scallop Trawl	AA	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
11	Scallop Trawl	OPEN	GEN	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
12	Scallop Trawl	OPEN	LIM	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
13	Otter Trawl, Ruhle	OPEN	all	NE	lg		UNKNOWN	MET
14	Otter Trawl, Haddock Separator	OPEN	all	NE	lg			MET
15	Shrimp Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
16	Shrimp Trawl	OPEN	all	NE	all	MET	MET	MET
17	Floating Trap	OPEN	all	MA	all		UNKNOWN	UNKNOWN
18	Floating Trap	OPEN	all	NE	all		UNKNOWN	UNKNOWN
19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	NOT MET	MET	MET
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	MET	NOT MET	NOT MET
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	NOT MET	NOT MET	MET
22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	UNKNOWN	UNKNOWN	UNKNOWN
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	MET	MET	MET
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	MET	MET	MET
25	Purse Seine	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
26	Purse Seine	OPEN	all	NE	all	MET	MET	MET
27	Scallop Dredge	AA	GEN	MA	all	MET	MET	UNKNOWN
28	Scallop Dredge	AA	GEN	NE	all	MET	MET	UNKNOWN
29	Scallop Dredge	AA	LIM	MA	all	NOT MET	MET	MET
30	Scallop Dredge	AA	LIM	NE	all	NOT MET	MET	MET
31	Scallop Dredge	OPEN	GEN	MA	all	MET	MET	MET
32	Scallop Dredge	OPEN	GEN	NE	all	MET	MET	MET
33	Scallop Dredge	OPEN	LIM	MA	all	MET	NOT MET	NOT MET
34	Scallop Dredge	OPEN	LIM	NE	all	MET	MET	MET
35	Mid-water paired & single Trawl	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
36	Mid-water paired & single Trawl	OPEN	all	NE	all	MET	MET	MET
37	Pots and Traps, Fish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
38	Pots and Traps, Fish	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 4, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 15 SBRM species groups, by fleet for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010. Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Species Group: SEA TURTLES

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
39	Pots and Traps, Conch	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
40	Pots and Traps, Conch	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
41	Pots and Traps, Hagfish	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
42	Pots and Traps, Hagfish	OPEN	all	NE	all	MET	MET	MET
43	Pots and Traps, Shrimp	OPEN	all	NE	all		UNKNOWN	UNKNOWN
44	Pots and Traps, Lobster	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
45	Pots and Traps, Lobster	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
46	Pots and Traps, Crab	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
47	Pots and Traps, Crab	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN
48	Beam Trawl	OPEN	all	MA	all		UNKNOWN	UNKNOWN
49	Beam Trawl	OPEN	all	NE	all		UNKNOWN	UNKNOWN
50	Dredge, Other	OPEN	all	MA	all		UNKNOWN	UNKNOWN
51	Ocean Quahog/Surf Clam Dredge	OPEN	all	MA	all	UNKNOWN	UNKNOWN	UNKNOWN
52	Ocean Quahog/Surf Clam Dredge	OPEN	all	NE	all	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 5. SBRM performance classification ("Unknown," "Met," and "Not Met") for 52 fleets, by SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	SBRM 2009	SBRM 2010	SBRM 2011
1	Longline	OPEN	all	MA	all	ATLANTIC SALMON	UNKNOWN	UNKNOWN	UNKNOWN
						BLUEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	UNKNOWN	UNKNOWN
						HERRING, ATLANTIC	UNKNOWN	UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						MONKFISH	UNKNOWN	UNKNOWN	UNKNOWN
						RED CRAB	UNKNOWN	UNKNOWN	UNKNOWN
						SEA SCALLOP	UNKNOWN	UNKNOWN	UNKNOWN
						SKATE COMPLEX	UNKNOWN	UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SPINY DOGFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	UNKNOWN	UNKNOWN
						TILEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SEA TURTLES	UNKNOWN	UNKNOWN	UNKNOWN
2	Longline	OPEN	all	NE	all	ATLANTIC SALMON	MET	MET	MET
						BLUEFISH	MET	MET	NOT MET
						FLUKE - SCUP - BLACK SEA BASS	MET	MET	NOT MET
						HERRING, ATLANTIC	MET	NOT MET	MET
						LARGE MESH GROUNDFISH	NOT MET	MET	MET
						MONKFISH	NOT MET	NOT MET	NOT MET
						RED CRAB	MET	MET	MET
						SEA SCALLOP	NOT MET	NOT MET	NOT MET
						SKATE COMPLEX	NOT MET	MET	MET
						SMALL MESH GROUNDFISH	MET	NOT MET	NOT MET
						SPINY DOGFISH	NOT MET	MET	NOT MET
						SQUID - BUTTERFISH - MACKEREL	MET	MET	MET
						SURFCLAM - OCEAN QUAHOG	NOT MET	MET	MET
						TILEFISH	MET	MET	MET
						SEA TURTLES	MET	MET	MET
3	Hand Line	OPEN	all	MA	all	ATLANTIC SALMON	UNKNOWN	UNKNOWN	UNKNOWN
						BLUEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	UNKNOWN	UNKNOWN
						HERRING, ATLANTIC	UNKNOWN	UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						MONKFISH	UNKNOWN	UNKNOWN	UNKNOWN
						RED CRAB	UNKNOWN	UNKNOWN	UNKNOWN
						SEA SCALLOP	UNKNOWN	UNKNOWN	UNKNOWN
						SKATE COMPLEX	UNKNOWN	UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SPINY DOGFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	UNKNOWN	UNKNOWN
						TILEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SEA TURTLES	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 5, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 52 fleets, by SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	SBRM 2009	SBRM 2010	SBRM 2011
4	Hand Line	OPEN	all	NE	all	ATLANTIC SALMON	UNKNOWN	MET	MET
						BLUEFISH	UNKNOWN	MET	NOT MET
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	MET	MET
						HERRING, ATLANTIC	UNKNOWN	MET	MET
						LARGE MESH GROUNDFISH	UNKNOWN	NOT MET	NOT MET
						MONKFISH	UNKNOWN	MET	MET
						RED CRAB	UNKNOWN	MET	MET
						SEA SCALLOP	UNKNOWN	MET	MET
						SKATE COMPLEX	UNKNOWN	NOT MET	MET
						SMALL MESH GROUNDFISH	UNKNOWN	MET	MET
						SPINY DOGFISH	UNKNOWN	NOT MET	MET
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	MET	MET
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	MET	MET
						TILEFISH	UNKNOWN	MET	MET
						SEA TURTLES	UNKNOWN	MET	MET
5	Otter Trawl	OPEN	all	MA	sm	ATLANTIC SALMON	MET	MET	MET
						BLUEFISH	NOT MET	NOT MET	NOT MET
						FLUKE - SCUP - BLACK SEA BASS	NOT MET	NOT MET	MET
						HERRING, ATLANTIC	NOT MET	NOT MET	NOT MET
						LARGE MESH GROUNDFISH	NOT MET	NOT MET	MET
						MONKFISH	NOT MET	NOT MET	NOT MET
						RED CRAB	MET	NOT MET	NOT MET
						SEA SCALLOP	NOT MET	NOT MET	NOT MET
						SKATE COMPLEX	MET	NOT MET	MET
						SMALL MESH GROUNDFISH	NOT MET	NOT MET	NOT MET
						SPINY DOGFISH	NOT MET	NOT MET	MET
						SQUID - BUTTERFISH - MACKEREL	NOT MET	NOT MET	NOT MET
						SURFCLAM - OCEAN QUAHOG	NOT MET	NOT MET	NOT MET
						TILEFISH	NOT MET	NOT MET	NOT MET
						SEA TURTLES	NOT MET	NOT MET	NOT MET
6	Otter Trawl	OPEN	all	MA	lg	ATLANTIC SALMON	MET	MET	MET
						BLUEFISH	NOT MET	NOT MET	NOT MET
						FLUKE - SCUP - BLACK SEA BASS	MET	NOT MET	MET
						HERRING, ATLANTIC	NOT MET	NOT MET	NOT MET
						LARGE MESH GROUNDFISH	NOT MET	MET	MET
						MONKFISH	NOT MET	MET	MET
						RED CRAB	NOT MET	NOT MET	NOT MET
						SEA SCALLOP	NOT MET	MET	MET
						SKATE COMPLEX	MET	MET	MET
						SMALL MESH GROUNDFISH	NOT MET	NOT MET	NOT MET
						SPINY DOGFISH	MET	NOT MET	MET
						SQUID - BUTTERFISH - MACKEREL	NOT MET	NOT MET	MET
						SURFCLAM - OCEAN QUAHOG	NOT MET	NOT MET	NOT MET
						TILEFISH	MET	MET	NOT MET
						SEA TURTLES	NOT MET	MET	NOT MET

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 5, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 52 fleets, by SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	SBRM 2009	SBRM 2010	SBRM 2011
7	Otter Trawl	OPEN	all	NE	sm	ATLANTIC SALMON	MET	MET	MET
						BLUEFISH	NOT MET	NOT MET	NOT MET
						FLUKE - SCUP - BLACK SEA BASS	NOT MET	NOT MET	MET
						HERRING, ATLANTIC	NOT MET	NOT MET	NOT MET
						LARGE MESH GROUNDFISH	NOT MET	NOT MET	NOT MET
						MONKFISH	NOT MET	NOT MET	NOT MET
						RED CRAB	MET	NOT MET	NOT MET
						SEA SCALLOP	NOT MET	NOT MET	NOT MET
						SKATE COMPLEX	NOT MET	NOT MET	NOT MET
						SMALL MESH GROUNDFISH	NOT MET	NOT MET	NOT MET
						SPINY DOGFISH	NOT MET	NOT MET	MET
						SQUID - BUTTERFISH - MACKEREL	NOT MET	NOT MET	NOT MET
						SURFCLAM - OCEAN QUAHOG	NOT MET	NOT MET	NOT MET
						TILEFISH	NOT MET	NOT MET	NOT MET
						SEA TURTLES	MET	NOT MET	NOT MET
8	Otter Trawl	OPEN	all	NE	lg	ATLANTIC SALMON	MET	MET	MET
						BLUEFISH	MET	MET	NOT MET
						FLUKE - SCUP - BLACK SEA BASS	MET	MET	MET
						HERRING, ATLANTIC	MET	MET	MET
						LARGE MESH GROUNDFISH	MET	MET	MET
						MONKFISH	MET	MET	MET
						RED CRAB	MET	MET	NOT MET
						SEA SCALLOP	MET	MET	MET
						SKATE COMPLEX	MET	MET	MET
						SMALL MESH GROUNDFISH	MET	MET	MET
						SPINY DOGFISH	MET	MET	MET
						SQUID - BUTTERFISH - MACKEREL	MET	MET	MET
						SURFCLAM - OCEAN QUAHOG	NOT MET	NOT MET	NOT MET
						TILEFISH	NOT MET	NOT MET	NOT MET
						SEA TURTLES	MET	NOT MET	NOT MET
9	Scallop Trawl	AA	GEN	MA	all	ATLANTIC SALMON	UNKNOWN	UNKNOWN	UNKNOWN
						BLUEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	UNKNOWN	UNKNOWN
						HERRING, ATLANTIC	UNKNOWN	UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						MONKFISH	UNKNOWN	UNKNOWN	UNKNOWN
						RED CRAB	UNKNOWN	UNKNOWN	UNKNOWN
						SEA SCALLOP	UNKNOWN	UNKNOWN	UNKNOWN
						SKATE COMPLEX	UNKNOWN	UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SPINY DOGFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	UNKNOWN	UNKNOWN
						TILEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SEA TURTLES	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 5, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 52 fleets, by SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	SBRM 2009	SBRM 2010	SBRM 2011
10	Scallop Trawl	AA	LIM	MA	all	ATLANTIC SALMON	UNKNOWN	UNKNOWN	UNKNOWN
						BLUEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	UNKNOWN	UNKNOWN
						HERRING, ATLANTIC	UNKNOWN	UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						MONKFISH	UNKNOWN	UNKNOWN	UNKNOWN
						RED CRAB	UNKNOWN	UNKNOWN	UNKNOWN
						SEA SCALLOP	UNKNOWN	UNKNOWN	UNKNOWN
						SKATE COMPLEX	UNKNOWN	UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SPINY DOGFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	UNKNOWN	UNKNOWN
						TILEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SEA TURTLES	UNKNOWN	UNKNOWN	UNKNOWN
11	Scallop Trawl	OPEN	GEN	MA	all	ATLANTIC SALMON	UNKNOWN	UNKNOWN	UNKNOWN
						BLUEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	UNKNOWN	UNKNOWN
						HERRING, ATLANTIC	UNKNOWN	UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						MONKFISH	UNKNOWN	UNKNOWN	UNKNOWN
						RED CRAB	UNKNOWN	UNKNOWN	UNKNOWN
						SEA SCALLOP	UNKNOWN	UNKNOWN	UNKNOWN
						SKATE COMPLEX	UNKNOWN	UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SPINY DOGFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	UNKNOWN	UNKNOWN
						TILEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SEA TURTLES	UNKNOWN	UNKNOWN	UNKNOWN
12	Scallop Trawl	OPEN	LIM	MA	all	ATLANTIC SALMON	UNKNOWN	UNKNOWN	UNKNOWN
						BLUEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	UNKNOWN	UNKNOWN
						HERRING, ATLANTIC	UNKNOWN	UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						MONKFISH	UNKNOWN	UNKNOWN	UNKNOWN
						RED CRAB	UNKNOWN	UNKNOWN	UNKNOWN
						SEA SCALLOP	UNKNOWN	UNKNOWN	UNKNOWN
						SKATE COMPLEX	UNKNOWN	UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SPINY DOGFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	UNKNOWN	UNKNOWN
						TILEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SEA TURTLES	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 5, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 52 fleets, by SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	SBRM 2009	SBRM 2010	SBRM 2011
13	Otter Trawl, Ruhle	OPEN	all	NE	lg	ATLANTIC SALMON		UNKNOWN	MET
						BLUEFISH		UNKNOWN	MET
						FLUKE - SCUP - BLACK SEA BASS		UNKNOWN	MET
						HERRING, ATLANTIC		UNKNOWN	MET
						LARGE MESH GROUNDFISH		UNKNOWN	MET
						MONKFISH		UNKNOWN	MET
						RED CRAB		UNKNOWN	MET
						SEA SCALLOP		UNKNOWN	MET
						SKATE COMPLEX		UNKNOWN	MET
						SMALL MESH GROUNDFISH		UNKNOWN	MET
						SPINY DOGFISH		UNKNOWN	MET
						SQUID - BUTTERFISH - MACKEREL		UNKNOWN	MET
						SURFCLAM - OCEAN QUAHOG		UNKNOWN	MET
						TILEFISH		UNKNOWN	MET
						SEA TURTLES		UNKNOWN	MET
14	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	ATLANTIC SALMON			MET
						BLUEFISH			MET
						FLUKE - SCUP - BLACK SEA BASS			MET
						HERRING, ATLANTIC			MET
						LARGE MESH GROUNDFISH			MET
						MONKFISH			MET
						RED CRAB			MET
						SEA SCALLOP			MET
						SKATE COMPLEX			MET
						SMALL MESH GROUNDFISH			MET
						SPINY DOGFISH			MET
						SQUID - BUTTERFISH - MACKEREL			MET
						SURFCLAM - OCEAN QUAHOG			MET
						TILEFISH			MET
						SEA TURTLES			MET
15	Shrimp Trawl	OPEN	all	MA	all	ATLANTIC SALMON	UNKNOWN	UNKNOWN	UNKNOWN
						BLUEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	UNKNOWN	UNKNOWN
						HERRING, ATLANTIC	UNKNOWN	UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						MONKFISH	UNKNOWN	UNKNOWN	UNKNOWN
						RED CRAB	UNKNOWN	UNKNOWN	UNKNOWN
						SEA SCALLOP	UNKNOWN	UNKNOWN	UNKNOWN
						SKATE COMPLEX	UNKNOWN	UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SPINY DOGFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	UNKNOWN	UNKNOWN
						TILEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SEA TURTLES	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 5, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 52 fleets, by SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	SBRM 2009	SBRM 2010	SBRM 2011
16	Shrimp Trawl	OPEN	all	NE	all	ATLANTIC SALMON	MET	MET	MET
						BLUEFISH	MET	MET	MET
						FLUKE - SCUP - BLACK SEA BASS	MET	MET	NOT MET
						HERRING, ATLANTIC	NOT MET	NOT MET	NOT MET
						LARGE MESH GROUNDFISH	NOT MET	MET	MET
						MONKFISH	NOT MET	NOT MET	NOT MET
						RED CRAB	MET	NOT MET	MET
						SEA SCALLOP	NOT MET	NOT MET	NOT MET
						SKATE COMPLEX	NOT MET	NOT MET	NOT MET
						SMALL MESH GROUNDFISH	NOT MET	NOT MET	MET
						SPINY DOGFISH	MET	NOT MET	NOT MET
						SQUID - BUTTERFISH - MACKEREL	MET	NOT MET	NOT MET
						SURFCLAM - OCEAN QUAHOG	MET	MET	MET
						TILEFISH	MET	MET	MET
						SEA TURTLES	MET	MET	MET
17	Floating Trap	OPEN	all	MA	all	ATLANTIC SALMON		UNKNOWN	UNKNOWN
						BLUEFISH		UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS		UNKNOWN	UNKNOWN
						HERRING, ATLANTIC		UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH		UNKNOWN	UNKNOWN
						MONKFISH		UNKNOWN	UNKNOWN
						RED CRAB		UNKNOWN	UNKNOWN
						SEA SCALLOP		UNKNOWN	UNKNOWN
						SKATE COMPLEX		UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH		UNKNOWN	UNKNOWN
						SPINY DOGFISH		UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL		UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG		UNKNOWN	UNKNOWN
						TILEFISH		UNKNOWN	UNKNOWN
						SEA TURTLES		UNKNOWN	UNKNOWN
18	Floating Trap	OPEN	all	NE	all	ATLANTIC SALMON		UNKNOWN	UNKNOWN
						BLUEFISH		UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS		UNKNOWN	UNKNOWN
						HERRING, ATLANTIC		UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH		UNKNOWN	UNKNOWN
						MONKFISH		UNKNOWN	UNKNOWN
						RED CRAB		UNKNOWN	UNKNOWN
						SEA SCALLOP		UNKNOWN	UNKNOWN
						SKATE COMPLEX		UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH		UNKNOWN	UNKNOWN
						SPINY DOGFISH		UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL		UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG		UNKNOWN	UNKNOWN
						TILEFISH		UNKNOWN	UNKNOWN
						SEA TURTLES		UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 5, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 52 fleets, by SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	SBRM 2009	SBRM 2010	SBRM 2011
19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	ATLANTIC SALMON	MET	MET	UNKNOWN
						BLUEFISH	NOT MET	NOT MET	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	NOT MET	NOT MET	UNKNOWN
						HERRING, ATLANTIC	MET	MET	UNKNOWN
						LARGE MESH GROUNDFISH	NOT MET	MET	UNKNOWN
						MONKFISH	MET	MET	UNKNOWN
						RED CRAB	MET	NOT MET	UNKNOWN
						SEA SCALLOP	MET	MET	UNKNOWN
						SKATE COMPLEX	NOT MET	MET	UNKNOWN
						SMALL MESH GROUNDFISH	MET	MET	UNKNOWN
						SPINY DOGFISH	NOT MET	NOT MET	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	MET	MET	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	MET	MET	UNKNOWN
						TILEFISH	MET	MET	UNKNOWN
						SEA TURTLES	NOT MET	MET	MET
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	ATLANTIC SALMON	MET	UNKNOWN	MET
						BLUEFISH	NOT MET	UNKNOWN	NOT MET
						FLUKE - SCUP - BLACK SEA BASS	MET	UNKNOWN	MET
						HERRING, ATLANTIC	MET	UNKNOWN	MET
						LARGE MESH GROUNDFISH	NOT MET	UNKNOWN	NOT MET
						MONKFISH	MET	UNKNOWN	NOT MET
						RED CRAB	MET	UNKNOWN	MET
						SEA SCALLOP	MET	UNKNOWN	MET
						SKATE COMPLEX	NOT MET	UNKNOWN	NOT MET
						SMALL MESH GROUNDFISH	MET	UNKNOWN	MET
						SPINY DOGFISH	NOT MET	UNKNOWN	NOT MET
						SQUID - BUTTERFISH - MACKEREL	NOT MET	UNKNOWN	MET
						SURFCLAM - OCEAN QUAHOG	MET	UNKNOWN	MET
						TILEFISH	MET	UNKNOWN	MET
						SEA TURTLES	MET	NOT MET	NOT MET
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	ATLANTIC SALMON	MET	MET	MET
						BLUEFISH	NOT MET	NOT MET	NOT MET
						FLUKE - SCUP - BLACK SEA BASS	NOT MET	NOT MET	NOT MET
						HERRING, ATLANTIC	NOT MET	MET	MET
						LARGE MESH GROUNDFISH	MET	MET	NOT MET
						MONKFISH	NOT MET	MET	NOT MET
						RED CRAB	MET	MET	MET
						SEA SCALLOP	NOT MET	NOT MET	NOT MET
						SKATE COMPLEX	NOT MET	NOT MET	NOT MET
						SMALL MESH GROUNDFISH	MET	NOT MET	MET
						SPINY DOGFISH	NOT MET	MET	NOT MET
						SQUID - BUTTERFISH - MACKEREL	NOT MET	NOT MET	MET
						SURFCLAM - OCEAN QUAHOG	MET	MET	MET
						TILEFISH	MET	MET	MET
						SEA TURTLES	NOT MET	NOT MET	MET

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 5, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 52 fleets, by SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	SBRM 2009	SBRM 2010	SBRM 2011
22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	ATLANTIC SALMON	UNKNOWN	UNKNOWN	UNKNOWN
						BLUEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	UNKNOWN	UNKNOWN
						HERRING, ATLANTIC	UNKNOWN	UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						MONKFISH	UNKNOWN	UNKNOWN	UNKNOWN
						RED CRAB	UNKNOWN	UNKNOWN	UNKNOWN
						SEA SCALLOP	UNKNOWN	UNKNOWN	UNKNOWN
						SKATE COMPLEX	UNKNOWN	UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SPINY DOGFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	UNKNOWN	UNKNOWN
						TILEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SEA TURTLES	UNKNOWN	UNKNOWN	UNKNOWN
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	ATLANTIC SALMON	MET	MET	MET
						BLUEFISH	NOT MET	NOT MET	NOT MET
						FLUKE - SCUP - BLACK SEA BASS	NOT MET	NOT MET	NOT MET
						HERRING, ATLANTIC	NOT MET	NOT MET	NOT MET
						LARGE MESH GROUNDFISH	MET	MET	MET
						MONKFISH	MET	NOT MET	MET
						RED CRAB	NOT MET	NOT MET	NOT MET
						SEA SCALLOP	NOT MET	MET	NOT MET
						SKATE COMPLEX	MET	MET	MET
						SMALL MESH GROUNDFISH	NOT MET	NOT MET	MET
						SPINY DOGFISH	MET	MET	MET
						SQUID - BUTTERFISH - MACKEREL	NOT MET	MET	MET
						SURFCLAM - OCEAN QUAHOG	MET	MET	MET
						TILEFISH	MET	MET	MET
						SEA TURTLES	MET	MET	MET
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	ATLANTIC SALMON	MET	MET	MET
						BLUEFISH	MET	NOT MET	NOT MET
						FLUKE - SCUP - BLACK SEA BASS	MET	NOT MET	NOT MET
						HERRING, ATLANTIC	MET	NOT MET	NOT MET
						LARGE MESH GROUNDFISH	NOT MET	NOT MET	NOT MET
						MONKFISH	MET	MET	MET
						RED CRAB	MET	NOT MET	NOT MET
						SEA SCALLOP	NOT MET	NOT MET	NOT MET
						SKATE COMPLEX	MET	MET	MET
						SMALL MESH GROUNDFISH	NOT MET	NOT MET	NOT MET
						SPINY DOGFISH	MET	MET	MET
						SQUID - BUTTERFISH - MACKEREL	NOT MET	NOT MET	NOT MET
						SURFCLAM - OCEAN QUAHOG	NOT MET	MET	MET
						TILEFISH	NOT MET	NOT MET	NOT MET
						SEA TURTLES	MET	MET	MET

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 5, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 52 fleets, by SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	SBRM 2009	SBRM 2010	SBRM 2011
25	Purse Seine	OPEN	all	MA	all	ATLANTIC SALMON	UNKNOWN	UNKNOWN	UNKNOWN
						BLUEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	UNKNOWN	UNKNOWN
						HERRING, ATLANTIC	UNKNOWN	UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						MONKFISH	UNKNOWN	UNKNOWN	UNKNOWN
						RED CRAB	UNKNOWN	UNKNOWN	UNKNOWN
						SEA SCALLOP	UNKNOWN	UNKNOWN	UNKNOWN
						SKATE COMPLEX	UNKNOWN	UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SPINY DOGFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	UNKNOWN	UNKNOWN
						TILEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SEA TURTLES	UNKNOWN	UNKNOWN	UNKNOWN
26	Purse Seine	OPEN	all	NE	all	ATLANTIC SALMON	MET	MET	MET
						BLUEFISH	MET	MET	MET
						FLUKE - SCUP - BLACK SEA BASS	MET	MET	MET
						HERRING, ATLANTIC	NOT MET	NOT MET	NOT MET
						LARGE MESH GROUNDFISH	MET	MET	NOT MET
						MONKFISH	MET	NOT MET	NOT MET
						RED CRAB	MET	MET	MET
						SEA SCALLOP	MET	NOT MET	MET
						SKATE COMPLEX	MET	NOT MET	MET
						SMALL MESH GROUNDFISH	NOT MET	MET	NOT MET
						SPINY DOGFISH	NOT MET	NOT MET	NOT MET
						SQUID - BUTTERFISH - MACKEREL	NOT MET	NOT MET	NOT MET
						SURFCLAM - OCEAN QUAHOG	MET	MET	MET
						TILEFISH	MET	MET	MET
						SEA TURTLES	MET	MET	MET
27	Scallop Dredge	AA	GEN	MA	all	ATLANTIC SALMON	MET	MET	UNKNOWN
						BLUEFISH	MET	MET	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	NOT MET	MET	UNKNOWN
						HERRING, ATLANTIC	MET	MET	UNKNOWN
						LARGE MESH GROUNDFISH	MET	MET	UNKNOWN
						MONKFISH	MET	MET	UNKNOWN
						RED CRAB	MET	MET	UNKNOWN
						SEA SCALLOP	MET	MET	UNKNOWN
						SKATE COMPLEX	MET	MET	UNKNOWN
						SMALL MESH GROUNDFISH	MET	NOT MET	UNKNOWN
						SPINY DOGFISH	NOT MET	MET	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	NOT MET	NOT MET	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	NOT MET	NOT MET	UNKNOWN
						TILEFISH	MET	MET	UNKNOWN
						SEA TURTLES	MET	MET	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 5, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 52 fleets, by SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	SBRM 2009	SBRM 2010	SBRM 2011
28	Scallop Dredge	AA	GEN	NE	all	ATLANTIC SALMON	MET	MET	UNKNOWN
						BLUEFISH	MET	MET	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	MET	MET	UNKNOWN
						HERRING, ATLANTIC	MET	MET	UNKNOWN
						LARGE MESH GROUNDFISH	MET	MET	UNKNOWN
						MONKFISH	MET	MET	UNKNOWN
						RED CRAB	NOT MET	MET	UNKNOWN
						SEA SCALLOP	MET	MET	UNKNOWN
						SKATE COMPLEX	MET	MET	UNKNOWN
						SMALL MESH GROUNDFISH	MET	MET	UNKNOWN
						SPINY DOGFISH	NOT MET	NOT MET	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	MET	MET	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	NOT MET	NOT MET	UNKNOWN
						TILEFISH	MET	MET	UNKNOWN
						SEA TURTLES	MET	MET	UNKNOWN
29	Scallop Dredge	AA	LIM	MA	all	ATLANTIC SALMON	MET	MET	MET
						BLUEFISH	MET	MET	MET
						FLUKE - SCUP - BLACK SEA BASS	NOT MET	MET	NOT MET
						HERRING, ATLANTIC	MET	MET	MET
						LARGE MESH GROUNDFISH	NOT MET	NOT MET	NOT MET
						MONKFISH	MET	MET	MET
						RED CRAB	MET	MET	MET
						SEA SCALLOP	NOT MET	MET	NOT MET
						SKATE COMPLEX	NOT MET	MET	MET
						SMALL MESH GROUNDFISH	MET	MET	NOT MET
						SPINY DOGFISH	MET	MET	NOT MET
						SQUID - BUTTERFISH - MACKEREL	NOT MET	MET	NOT MET
						SURFCLAM - OCEAN QUAHOG	NOT MET	NOT MET	NOT MET
						TILEFISH	MET	MET	MET
						SEA TURTLES	NOT MET	MET	MET
30	Scallop Dredge	AA	LIM	NE	all	ATLANTIC SALMON	MET	MET	MET
						BLUEFISH	MET	MET	NOT MET
						FLUKE - SCUP - BLACK SEA BASS	MET	MET	MET
						HERRING, ATLANTIC	MET	NOT MET	MET
						LARGE MESH GROUNDFISH	MET	MET	NOT MET
						MONKFISH	MET	MET	MET
						RED CRAB	NOT MET	MET	MET
						SEA SCALLOP	MET	MET	NOT MET
						SKATE COMPLEX	MET	MET	MET
						SMALL MESH GROUNDFISH	MET	MET	NOT MET
						SPINY DOGFISH	MET	MET	MET
						SQUID - BUTTERFISH - MACKEREL	MET	MET	NOT MET
						SURFCLAM - OCEAN QUAHOG	NOT MET	NOT MET	NOT MET
						TILEFISH	MET	MET	MET
						SEA TURTLES	NOT MET	MET	MET

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 5, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 52 fleets, by SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	SBRM 2009	SBRM 2010	SBRM 2011
31	Scallop Dredge	OPEN	GEN	MA	all	ATLANTIC SALMON	MET	MET	MET
						BLUEFISH	MET	NOT MET	MET
						FLUKE - SCUP - BLACK SEA BASS	NOT MET	NOT MET	NOT MET
						HERRING, ATLANTIC	MET	MET	MET
						LARGE MESH GROUNDFISH	NOT MET	NOT MET	MET
						MONKFISH	NOT MET	MET	NOT MET
						RED CRAB	MET	MET	NOT MET
						SEA SCALLOP	NOT MET	MET	NOT MET
						SKATE COMPLEX	MET	NOT MET	MET
						SMALL MESH GROUNDFISH	NOT MET	NOT MET	NOT MET
						SPINY DOGFISH	NOT MET	NOT MET	NOT MET
						SQUID - BUTTERFISH - MACKEREL	NOT MET	NOT MET	NOT MET
						SURFCLAM - OCEAN QUAHOG	NOT MET	NOT MET	NOT MET
						TILEFISH	MET	MET	MET
						SEA TURTLES	MET	MET	MET
32	Scallop Dredge	OPEN	GEN	NE	all	ATLANTIC SALMON	MET	MET	MET
						BLUEFISH	MET	MET	MET
						FLUKE - SCUP - BLACK SEA BASS	NOT MET	NOT MET	NOT MET
						HERRING, ATLANTIC	MET	MET	MET
						LARGE MESH GROUNDFISH	NOT MET	NOT MET	NOT MET
						MONKFISH	NOT MET	NOT MET	NOT MET
						RED CRAB	MET	MET	MET
						SEA SCALLOP	NOT MET	NOT MET	NOT MET
						SKATE COMPLEX	NOT MET	NOT MET	NOT MET
						SMALL MESH GROUNDFISH	NOT MET	NOT MET	NOT MET
						SPINY DOGFISH	MET	NOT MET	NOT MET
						SQUID - BUTTERFISH - MACKEREL	NOT MET	MET	NOT MET
						SURFCLAM - OCEAN QUAHOG	MET	NOT MET	MET
						TILEFISH	MET	MET	MET
						SEA TURTLES	MET	MET	MET
33	Scallop Dredge	OPEN	LIM	MA	all	ATLANTIC SALMON	MET	MET	MET
						BLUEFISH	MET	MET	MET
						FLUKE - SCUP - BLACK SEA BASS	MET	MET	MET
						HERRING, ATLANTIC	NOT MET	NOT MET	MET
						LARGE MESH GROUNDFISH	MET	MET	NOT MET
						MONKFISH	MET	MET	MET
						RED CRAB	MET	MET	NOT MET
						SEA SCALLOP	NOT MET	MET	NOT MET
						SKATE COMPLEX	MET	MET	MET
						SMALL MESH GROUNDFISH	MET	MET	NOT MET
						SPINY DOGFISH	MET	MET	NOT MET
						SQUID - BUTTERFISH - MACKEREL	NOT MET	NOT MET	NOT MET
						SURFCLAM - OCEAN QUAHOG	NOT MET	NOT MET	NOT MET
						TILEFISH	MET	MET	MET
						SEA TURTLES	MET	NOT MET	NOT MET

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 5, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 52 fleets, by SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	SBRM 2009	SBRM 2010	SBRM 2011
34	Scallop Dredge	OPEN	LIM	NE	all	ATLANTIC SALMON	MET	MET	MET
						BLUEFISH	NOT MET	MET	NOT MET
						FLUKE - SCUP - BLACK SEA BASS	MET	MET	MET
						HERRING, ATLANTIC	NOT MET	MET	NOT MET
						LARGE MESH GROUNDFISH	MET	MET	MET
						MONKFISH	MET	MET	MET
						RED CRAB	NOT MET	NOT MET	NOT MET
						SEA SCALLOP	MET	MET	MET
						SKATE COMPLEX	MET	MET	MET
						SMALL MESH GROUNDFISH	MET	MET	MET
						SPINY DOGFISH	MET	MET	MET
						SQUID - BUTTERFISH - MACKEREL	NOT MET	NOT MET	NOT MET
						SURFCLAM - OCEAN QUAHOG	NOT MET	NOT MET	NOT MET
						TILEFISH	MET	MET	MET
						SEA TURTLES	MET	MET	MET
35	Mid-water paired & single Trawl	OPEN	all	MA	all	ATLANTIC SALMON	UNKNOWN	UNKNOWN	UNKNOWN
						BLUEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	UNKNOWN	UNKNOWN
						HERRING, ATLANTIC	UNKNOWN	UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						MONKFISH	UNKNOWN	UNKNOWN	UNKNOWN
						RED CRAB	UNKNOWN	UNKNOWN	UNKNOWN
						SEA SCALLOP	UNKNOWN	UNKNOWN	UNKNOWN
						SKATE COMPLEX	UNKNOWN	UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SPINY DOGFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	UNKNOWN	UNKNOWN
						TILEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SEA TURTLES	UNKNOWN	UNKNOWN	UNKNOWN
36	Mid-water paired & single Trawl	OPEN	all	NE	all	ATLANTIC SALMON	MET	MET	MET
						BLUEFISH	NOT MET	MET	NOT MET
						FLUKE - SCUP - BLACK SEA BASS	NOT MET	NOT MET	MET
						HERRING, ATLANTIC	NOT MET	NOT MET	NOT MET
						LARGE MESH GROUNDFISH	NOT MET	NOT MET	NOT MET
						MONKFISH	NOT MET	NOT MET	NOT MET
						RED CRAB	MET	MET	MET
						SEA SCALLOP	MET	MET	MET
						SKATE COMPLEX	NOT MET	NOT MET	NOT MET
						SMALL MESH GROUNDFISH	NOT MET	NOT MET	NOT MET
						SPINY DOGFISH	NOT MET	MET	MET
						SQUID - BUTTERFISH - MACKEREL	NOT MET	NOT MET	NOT MET
						SURFCLAM - OCEAN QUAHOG	MET	MET	MET
						TILEFISH	MET	MET	MET
						SEA TURTLES	MET	MET	MET

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 5, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 52 fleets, by SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	SBRM 2009	SBRM 2010	SBRM 2011
37	Pots and Traps, Fish	OPEN	all	MA	all	ATLANTIC SALMON	UNKNOWN	UNKNOWN	UNKNOWN
						BLUEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	UNKNOWN	UNKNOWN
						HERRING, ATLANTIC	UNKNOWN	UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						MONKFISH	UNKNOWN	UNKNOWN	UNKNOWN
						RED CRAB	UNKNOWN	UNKNOWN	UNKNOWN
						SEA SCALLOP	UNKNOWN	UNKNOWN	UNKNOWN
						SKATE COMPLEX	UNKNOWN	UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SPINY DOGFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	UNKNOWN	UNKNOWN
						TILEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SEA TURTLES	UNKNOWN	UNKNOWN	UNKNOWN
38	Pots and Traps, Fish	OPEN	all	NE	all	ATLANTIC SALMON	UNKNOWN	UNKNOWN	UNKNOWN
						BLUEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	UNKNOWN	UNKNOWN
						HERRING, ATLANTIC	UNKNOWN	UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						MONKFISH	UNKNOWN	UNKNOWN	UNKNOWN
						RED CRAB	UNKNOWN	UNKNOWN	UNKNOWN
						SEA SCALLOP	UNKNOWN	UNKNOWN	UNKNOWN
						SKATE COMPLEX	UNKNOWN	UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SPINY DOGFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	UNKNOWN	UNKNOWN
						TILEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SEA TURTLES	UNKNOWN	UNKNOWN	UNKNOWN
39	Pots and Traps, Conch	OPEN	all	MA	all	ATLANTIC SALMON	UNKNOWN	UNKNOWN	UNKNOWN
						BLUEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	UNKNOWN	UNKNOWN
						HERRING, ATLANTIC	UNKNOWN	UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						MONKFISH	UNKNOWN	UNKNOWN	UNKNOWN
						RED CRAB	UNKNOWN	UNKNOWN	UNKNOWN
						SEA SCALLOP	UNKNOWN	UNKNOWN	UNKNOWN
						SKATE COMPLEX	UNKNOWN	UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SPINY DOGFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	UNKNOWN	UNKNOWN
						TILEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SEA TURTLES	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 5, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 52 fleets, by SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	SBRM 2009	SBRM 2010	SBRM 2011
40	Pots and Traps, Conch	OPEN	all	NE	all	ATLANTIC SALMON	UNKNOWN	UNKNOWN	UNKNOWN
						BLUEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	UNKNOWN	UNKNOWN
						HERRING, ATLANTIC	UNKNOWN	UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						MONKFISH	UNKNOWN	UNKNOWN	UNKNOWN
						RED CRAB	UNKNOWN	UNKNOWN	UNKNOWN
						SEA SCALLOP	UNKNOWN	UNKNOWN	UNKNOWN
						SKATE COMPLEX	UNKNOWN	UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SPINY DOGFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	UNKNOWN	UNKNOWN
						TILEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SEA TURTLES	UNKNOWN	UNKNOWN	UNKNOWN
41	Pots and Traps, Hagfish	OPEN	all	MA	all	ATLANTIC SALMON	UNKNOWN	UNKNOWN	UNKNOWN
						BLUEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	UNKNOWN	UNKNOWN
						HERRING, ATLANTIC	UNKNOWN	UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						MONKFISH	UNKNOWN	UNKNOWN	UNKNOWN
						RED CRAB	UNKNOWN	UNKNOWN	UNKNOWN
						SEA SCALLOP	UNKNOWN	UNKNOWN	UNKNOWN
						SKATE COMPLEX	UNKNOWN	UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SPINY DOGFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	UNKNOWN	UNKNOWN
						TILEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SEA TURTLES	UNKNOWN	UNKNOWN	UNKNOWN
42	Pots and Traps, Hagfish	OPEN	all	NE	all	ATLANTIC SALMON	MET	MET	MET
						BLUEFISH	MET	MET	MET
						FLUKE - SCUP - BLACK SEA BASS	MET	MET	MET
						HERRING, ATLANTIC	MET	MET	MET
						LARGE MESH GROUNDFISH	NOT MET	MET	MET
						MONKFISH	MET	MET	MET
						RED CRAB	MET	MET	MET
						SEA SCALLOP	MET	MET	MET
						SKATE COMPLEX	MET	MET	MET
						SMALL MESH GROUNDFISH	NOT MET	NOT MET	MET
						SPINY DOGFISH	MET	MET	MET
						SQUID - BUTTERFISH - MACKEREL	NOT MET	MET	MET
						SURFCLAM - OCEAN QUAHOG	MET	MET	MET
						TILEFISH	MET	MET	MET
						SEA TURTLES	MET	MET	MET

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 5, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 52 fleets, by SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	SBRM 2009	SBRM 2010	SBRM 2011
43	Pots and Traps, Shrimp	OPEN	all	NE	all	ATLANTIC SALMON		UNKNOWN	UNKNOWN
						BLUEFISH		UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS		UNKNOWN	UNKNOWN
						HERRING, ATLANTIC		UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH		UNKNOWN	UNKNOWN
						MONKFISH		UNKNOWN	UNKNOWN
						RED CRAB		UNKNOWN	UNKNOWN
						SEA SCALLOP		UNKNOWN	UNKNOWN
						SKATE COMPLEX		UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH		UNKNOWN	UNKNOWN
						SPINY DOGFISH		UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL		UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG		UNKNOWN	UNKNOWN
						TILEFISH		UNKNOWN	UNKNOWN
						SEA TURTLES		UNKNOWN	UNKNOWN
44	Pots and Traps, Lobster	OPEN	all	MA	all	ATLANTIC SALMON	UNKNOWN	UNKNOWN	UNKNOWN
						BLUEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	UNKNOWN	UNKNOWN
						HERRING, ATLANTIC	UNKNOWN	UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						MONKFISH	UNKNOWN	UNKNOWN	UNKNOWN
						RED CRAB	UNKNOWN	UNKNOWN	UNKNOWN
						SEA SCALLOP	UNKNOWN	UNKNOWN	UNKNOWN
						SKATE COMPLEX	UNKNOWN	UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SPINY DOGFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	UNKNOWN	UNKNOWN
						TILEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SEA TURTLES	UNKNOWN	UNKNOWN	UNKNOWN
45	Pots and Traps, Lobster	OPEN	all	NE	all	ATLANTIC SALMON	UNKNOWN	UNKNOWN	UNKNOWN
						BLUEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	UNKNOWN	UNKNOWN
						HERRING, ATLANTIC	UNKNOWN	UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						MONKFISH	UNKNOWN	UNKNOWN	UNKNOWN
						RED CRAB	UNKNOWN	UNKNOWN	UNKNOWN
						SEA SCALLOP	UNKNOWN	UNKNOWN	UNKNOWN
						SKATE COMPLEX	UNKNOWN	UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SPINY DOGFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	UNKNOWN	UNKNOWN
						TILEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SEA TURTLES	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 5, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 52 fleets, by SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	SBRM 2009	SBRM 2010	SBRM 2011
46	Pots and Traps, Crab	OPEN	all	MA	all	ATLANTIC SALMON	UNKNOWN	UNKNOWN	UNKNOWN
						BLUEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	UNKNOWN	UNKNOWN
						HERRING, ATLANTIC	UNKNOWN	UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						MONKFISH	UNKNOWN	UNKNOWN	UNKNOWN
						RED CRAB	UNKNOWN	UNKNOWN	UNKNOWN
						SEA SCALLOP	UNKNOWN	UNKNOWN	UNKNOWN
						SKATE COMPLEX	UNKNOWN	UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SPINY DOGFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	UNKNOWN	UNKNOWN
						TILEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SEA TURTLES	UNKNOWN	UNKNOWN	UNKNOWN
47	Pots and Traps, Crab	OPEN	all	NE	all	ATLANTIC SALMON	UNKNOWN	UNKNOWN	UNKNOWN
						BLUEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	UNKNOWN	UNKNOWN
						HERRING, ATLANTIC	UNKNOWN	UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						MONKFISH	UNKNOWN	UNKNOWN	UNKNOWN
						RED CRAB	UNKNOWN	UNKNOWN	UNKNOWN
						SEA SCALLOP	UNKNOWN	UNKNOWN	UNKNOWN
						SKATE COMPLEX	UNKNOWN	UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SPINY DOGFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	UNKNOWN	UNKNOWN
						TILEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SEA TURTLES	UNKNOWN	UNKNOWN	UNKNOWN
48	Beam Trawl	OPEN	all	MA	all	ATLANTIC SALMON		UNKNOWN	UNKNOWN
						BLUEFISH		UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS		UNKNOWN	UNKNOWN
						HERRING, ATLANTIC		UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH		UNKNOWN	UNKNOWN
						MONKFISH		UNKNOWN	UNKNOWN
						RED CRAB		UNKNOWN	UNKNOWN
						SEA SCALLOP		UNKNOWN	UNKNOWN
						SKATE COMPLEX		UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH		UNKNOWN	UNKNOWN
						SPINY DOGFISH		UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL		UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG		UNKNOWN	UNKNOWN
						TILEFISH		UNKNOWN	UNKNOWN
						SEA TURTLES		UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 5, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 52 fleets, by SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	SBRM 2009	SBRM 2010	SBRM 2011
49	Beam Trawl	OPEN	all	NE	all	ATLANTIC SALMON		UNKNOWN	UNKNOWN
						BLUEFISH		UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS		UNKNOWN	UNKNOWN
						HERRING, ATLANTIC		UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH		UNKNOWN	UNKNOWN
						MONKFISH		UNKNOWN	UNKNOWN
						RED CRAB		UNKNOWN	UNKNOWN
						SEA SCALLOP		UNKNOWN	UNKNOWN
						SKATE COMPLEX		UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH		UNKNOWN	UNKNOWN
						SPINY DOGFISH		UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL		UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG		UNKNOWN	UNKNOWN
						TILEFISH		UNKNOWN	UNKNOWN
						SEA TURTLES		UNKNOWN	UNKNOWN
50	Dredge, Other	OPEN	all	MA	all	ATLANTIC SALMON		UNKNOWN	UNKNOWN
						BLUEFISH		UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS		UNKNOWN	UNKNOWN
						HERRING, ATLANTIC		UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH		UNKNOWN	UNKNOWN
						MONKFISH		UNKNOWN	UNKNOWN
						RED CRAB		UNKNOWN	UNKNOWN
						SEA SCALLOP		UNKNOWN	UNKNOWN
						SKATE COMPLEX		UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH		UNKNOWN	UNKNOWN
						SPINY DOGFISH		UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL		UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG		UNKNOWN	UNKNOWN
						TILEFISH		UNKNOWN	UNKNOWN
						SEA TURTLES		UNKNOWN	UNKNOWN
51	Ocean Quahog/Surf Clam Dredge	OPEN	all	MA	all	ATLANTIC SALMON	UNKNOWN	UNKNOWN	UNKNOWN
						BLUEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	UNKNOWN	UNKNOWN
						HERRING, ATLANTIC	UNKNOWN	UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						MONKFISH	UNKNOWN	UNKNOWN	UNKNOWN
						RED CRAB	UNKNOWN	UNKNOWN	UNKNOWN
						SEA SCALLOP	UNKNOWN	UNKNOWN	UNKNOWN
						SKATE COMPLEX	UNKNOWN	UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SPINY DOGFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	UNKNOWN	UNKNOWN
						TILEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SEA TURTLES	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 5, continued. SBRM performance classification ("Unknown," "Met," and "Not Met") for 52 fleets, by SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). Dark shading indicates cells not considered in annual SBRM analyses ("Not Applicable"). Light shading indicates non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analyses due to the importance filter (filtered out).

Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	SBRM 2009	SBRM 2010	SBRM 2011
52	Ocean Quahog/Surf Clam Dredge	OPEN	all	NE	all	ATLANTIC SALMON	UNKNOWN	UNKNOWN	UNKNOWN
						BLUEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						FLUKE - SCUP - BLACK SEA BASS	UNKNOWN	UNKNOWN	UNKNOWN
						HERRING, ATLANTIC	UNKNOWN	UNKNOWN	UNKNOWN
						LARGE MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						MONKFISH	UNKNOWN	UNKNOWN	UNKNOWN
						RED CRAB	UNKNOWN	UNKNOWN	UNKNOWN
						SEA SCALLOP	UNKNOWN	UNKNOWN	UNKNOWN
						SKATE COMPLEX	UNKNOWN	UNKNOWN	UNKNOWN
						SMALL MESH GROUNDFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SPINY DOGFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SQUID - BUTTERFISH - MACKEREL	UNKNOWN	UNKNOWN	UNKNOWN
						SURFCLAM - OCEAN QUAHOG	UNKNOWN	UNKNOWN	UNKNOWN
						TILEFISH	UNKNOWN	UNKNOWN	UNKNOWN
						SEA TURTLES	UNKNOWN	UNKNOWN	UNKNOWN

Please note: The dark shading represents "Not Applicable" cells. This is different than the dark shading used in Tables 9a and 9b in Wigley et al. 2011 where the dark shading represents "Not Applicable" cells and cells with no NEFOP coverage. The light shading represents only non-pilot cells where the variance of the discard estimate was not used in the annual SBRM sample size analysis due to the importance filter (cell filtered out). This is different than the light shading used in Tables 9a and 9b in Wigley et al. 2011 where the light shading represents both pilot and non-pilot cells with no CVs that were not used in the annual SBRM sample size analysis. See supporting text for abbreviations.

Table 6. The SBRM standard sea days for 14 species groups, by fleet and SBRM year for 16 fleets (non-pilot fleets with sea days estimated for at least two of the three SBRM years) used in the expected coefficient of variance analyses. Bold values represents the SBRM standard sea days when turtles were excluded.

						SBRM Standard Sea Days for 14 species groups		
Row	Gear Type	Access Area	Trip Cat.	Region	Mesh Group	SBRM 2009	SBRM 2010	SBRM 2011
2	Longline	OPEN	all	NE	all	456	0	184
5	Otter Trawl	OPEN	all	MA	sm	**1242**	**1359**	**937**
6	Otter Trawl	OPEN	all	MA	lg	**651**	2175	**161**
7	Otter Trawl	OPEN	all	NE	sm	4027	2192	**762**
8	Otter Trawl	OPEN	all	NE	lg	1233	668	5183
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	139	0	**59**
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	**67**	**46**	86
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	**60**	159	147
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	171	140	256
29	Scallop Dredge	AA	LIM	MA	all	271	0	178
30	Scallop Dredge	AA	LIM	NE	all	233	255	170
31	Scallop Dredge	OPEN	GEN	MA	all	167	49	43
32	Scallop Dredge	OPEN	GEN	NE	all	43	23	0
33	Scallop Dredge	OPEN	LIM	MA	all	398	**494**	**983**
34	Scallop Dredge	OPEN	LIM	NE	all	254	475	658
36	Mid-water Paired & Single Trawl	OPEN	all	NE	all	433	379	190

See supporting text for abbreviations.

Table 7. Expected coefficients of variations (CVs) derived from SBRM 2009 standard sea days and SBRM 2009 species group variances of total discard (no lag). Red font indicated CVs less than or equal to 30%.

Row	Gear Type	Access Area	Trip Cat.	Region	Mesh Group	SBRM 2009 Standard Sea Days	RCRAB	SCAL	SBM	MONK	GFL	GFS	SKATE	DOG	FSB
2	Longline	OPEN	all	NE	all	456	*	*	*	*	*	*	*	0.30	*
5	Otter Trawl	OPEN	all	MA	sm	1242	*	*	*	0.20	*	0.30	0.14	0.20	0.17
6	Otter Trawl	OPEN	all	MA	lg	651	*	*	*	*	0.30	*	0.12	0.19	0.19
7	Otter Trawl	OPEN	all	NE	sm	4027	*	*	0.06	*	0.12	0.05	0.15	0.15	0.30
8	Otter Trawl	OPEN	all	NE	lg	1233	*	*	*	0.09	0.07	0.30	0.06	0.13	0.12
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	139	*	*	*	*	*	*	*	0.30	*
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	67	*	*	*	*	*	*	*	0.30	*
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	60	*	*	*	*	0.30	*	*	0.28	*
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	171	*	*	*	0.30	*	*	*	0.24	*
29	Scallop Dredge	AA	LIM	MA	all	271	*	*	*	0.30	*	*	*	*	*
30	Scallop Dredge	AA	LIM	NE	all	233	*	*	*	0.30	*	*	*	*	*
31	Scallop Dredge	OPEN	GEN	MA	all	167	*	*	*	0.30	*	*	0.10	*	*
32	Scallop Dredge	OPEN	GEN	NE	all	43	*	*	*	*	*	*	0.30	*	*
33	Scallop Dredge	OPEN	LIM	MA	all	398	*	*	*	0.25	*	*	0.17	0.30	0.27
34	Scallop Dredge	OPEN	LIM	NE	all	254	*	*	*	0.26	0.20	*	0.19	*	0.30
36	Mid-water Paired & Single Trawl	OPEN	all	NE	all	433	*	*	*	*	*	*	*	0.30	*

See supporting text and Table 1 for abbreviations.

Table 8. Expected coefficients of variations (CVs) derived from SBRM 2010 standard sea days and SBRM 2010 species group variances of total discard (no lag). Red font indicated CVs less than or equal to 30%.

Row	Gear Type	Access Area	Trip Cat.	Region	Mesh Group	SBRM 2010 Standard Sea Days	RCRAB	SCAL	SBM	MONK	GFL	GFS	SKATE	DOG	FSB
2	Longline	OPEN	all	NE	all	0									
5	Otter Trawl	OPEN	all	MA	sm	1359	*	*	0.21	*	*	0.18	0.21	0.20	0.30
6	Otter Trawl	OPEN	all	MA	lg	2175	*	*	*	*	0.08	0.30	0.07	0.09	0.10
7	Otter Trawl	OPEN	all	NE	sm	2192	*	*	*	*	*	0.22	*	0.29	0.30
8	Otter Trawl	OPEN	all	NE	lg	668	*	*	*	0.24	0.09	0.30	0.09	0.18	0.22
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0									
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	46	*	*	*	0.30	*	*	*	0.29	*
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	159	*	*	*	*	0.18	*	*	0.30	*
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	140	*	*	*	0.30	*	*	0.21	0.23	*
29	Scallop Dredge	AA	LIM	MA	all	0									
30	Scallop Dredge	AA	LIM	NE	all	255	*	*	*	0.30	*	*	*	*	*
31	Scallop Dredge	OPEN	GEN	MA	all	49	*	*	*	*	*	*	0.30	*	*
32	Scallop Dredge	OPEN	GEN	NE	all	23	*	*	*	*	*	*	0.30	*	*
33	Scallop Dredge	OPEN	LIM	MA	all	494	*	*	*	0.17	*	*	0.15	0.18	0.30
34	Scallop Dredge	OPEN	LIM	NE	all	475	*	0.29	*	0.21	0.15	0.25	0.15	0.30	0.22
36	Mid-water Paired & Single Trawl	OPEN	all	NE	all	379	*	*	*	*	*	0.30	*	0.19	*

See supporting text and Table 1 for abbreviations.

Table 9. Expected coefficients of variations (CVs) derived from SBRM 2011 standard sea days and SBRM 2011 species group variances of total discard (no lag). Red font indicated CVs less than or equal to 30%.

Row	Gear Type	Access Area	Trip Cat.	Region	Mesh Group	SBRM 2011 Standard Sea Days	RCRAB	SCAL	SBM	MONK	GFL	GFS	SKATE	DOG	FSB
2	Longline	OPEN	all	NE	all	184	*	*	*	*	*	*	*	0.30	*
5	Otter Trawl	OPEN	all	MA	sm	937	*	*	0.30	*	*	0.26	0.21	0.23	0.23
6	Otter Trawl	OPEN	all	MA	lg	161	*	*	*	0.27	0.30	*	0.23	0.28	0.27
7	Otter Trawl	OPEN	all	NE	sm	762	*	*	0.28	*	*	0.30	0.29	0.24	0.25
8	Otter Trawl	OPEN	all	NE	lg	5183	0.30	*	*	0.05	0.04	0.08	0.04	0.04	0.07
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	59	*	*	*	*	*	*	*	0.30	*
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	86	*	*	*	0.30	*	*	*	*	*
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	147	*	*	*	*	0.24	*	*	0.30	*
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	256	*	*	*	0.30	*	*	0.16	0.26	*
29	Scallop Dredge	AA	LIM	MA	all	178	*	*	*	0.25	*	*	0.30	*	*
30	Scallop Dredge	AA	LIM	NE	all	170	*	*	*	0.30	*	*	*	*	*
31	Scallop Dredge	OPEN	GEN	MA	all	43	*	*	*	*	*	*	0.30	*	*
32	Scallop Dredge	OPEN	GEN	NE	all	0									
33	Scallop Dredge	OPEN	LIM	MA	all	983	*	*	*	0.12	0.30	*	0.14	*	*
34	Scallop Dredge	OPEN	LIM	NE	all	658	*	0.24	*	0.14	0.20	*	0.18	*	0.30
36	Mid-water Paired & Single Trawl	OPEN	all	NE	all	190	*	*	*	*	*	*	*	0.30	*

See supporting text and Table 1 for abbreviations.

Table 10. Expected coefficients of variations (CVs) derived from SBRM 2010 standard sea days and SBRM 2009 species group variances of total discard (1-year lag). Red font indicated CVs less than or equal to 30%.

Row	Gear Type	Access Area	Trip Cat.	Region	Mesh Group	SBRM 2010 Standard Sea Days	RCRAB	SCAL	SBM	MONK	GFL	GFS	SKATE	DOG	FSB
2	Longline	OPEN	all	NE	all	0									
5	Otter Trawl	OPEN	all	MA	sm	1359	*	*	*	0.19	*	0.28	0.13	0.19	0.16
6	Otter Trawl	OPEN	all	MA	lg	2175	*	*	*	*	0.16	*	0.06	0.10	0.10
7	Otter Trawl	OPEN	all	NE	sm	2192	*	*	0.10	*	0.19	0.09	0.23	0.23	0.46
8	Otter Trawl	OPEN	all	NE	lg	668	0.45	*	*	0.12	0.10	0.41	0.09	0.17	0.17
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0									
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	46	*	*	*	*	*	*	*	0.36	*
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	159	*	*	*	*	0.18	*	*	0.17	*
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	140	*	*	*	0.33	*	*	*	0.27	*
29	Scallop Dredge	AA	LIM	MA	all	0									
30	Scallop Dredge	AA	LIM	NE	all	255	*	*	*	0.29	*	*	*	*	*
31	Scallop Dredge	OPEN	GEN	MA	all	49	*	*	*	0.56	*	*	0.19	*	*
32	Scallop Dredge	OPEN	GEN	NE	all	23	*	*	*	*	*	*	0.41	*	*
33	Scallop Dredge	OPEN	LIM	MA	all	494	*	*	*	0.22	*	*	0.15	0.27	0.24
34	Scallop Dredge	OPEN	LIM	NE	all	475	*	0.30	*	0.19	0.15	*	0.14	*	0.22
36	Mid-water Paired & Single Trawl	OPEN	all	NE	all	379	*	*	*	*	*	*	*	0.33	*

See supporting text and Table 1 for abbreviations.

Table 11. Expected coefficients of variations (CVs) derived from SBRM 2009 standard sea days and SBRM 2010 species group variances of total discard (1-year lag). Red font indicated CVs less than or equal to 30%.
Note: MA large mesh gillnet (Row 20) was a "pilot" fleet in SBRM 2010 for fish only; thus no CV could be calculated from this scenario.

Row	Gear Type	Access Area	Trip Cat.	Region	Mesh Group	SBRM 2009 Standard Sea Days	RCRAB	SCAL	SBM	MONK	GFL	GFS	SKATE	DOG	FSB
2	Longline	OPEN	all	NE	all	456	*	*	*	*	*	*	*	*	*
5	Otter Trawl	OPEN	all	MA	sm	1242	*	*	0.22	*	*	0.19	0.22	0.21	0.32
6	Otter Trawl	OPEN	all	MA	lg	651	*	*	*	*	0.15	0.60	0.15	0.18	0.19
7	Otter Trawl	OPEN	all	NE	sm	4027	*	*	*	*	*	0.15	*	0.19	0.20
8	Otter Trawl	OPEN	all	NE	lg	1233	*	*	*	0.18	0.07	0.22	0.07	0.13	0.16
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	139									
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	67	*	*	*	0.25	*	*	*	0.24	*
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	60	*	*	*	*	0.30	*	*	0.49	*
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	171	*	*	*	0.27	*	*	0.19	0.21	*
29	Scallop Dredge	AA	LIM	MA	all	271	*	*	*	*	*	*	*	*	*
30	Scallop Dredge	AA	LIM	NE	all	233	*	*	*	0.32	*	*	*	*	*
31	Scallop Dredge	OPEN	GEN	MA	all	167	*	*	*	*	*	*	0.16	*	*
32	Scallop Dredge	OPEN	GEN	NE	all	43	*	*	*	*	*	*	0.22	*	*
33	Scallop Dredge	OPEN	LIM	MA	all	398	*	*	*	0.19	*	*	0.17	0.20	0.34
34	Scallop Dredge	OPEN	LIM	NE	all	254	*	0.39	*	0.29	0.20	0.34	0.21	0.41	0.31
36	Mid-water Paired & Single Trawl	OPEN	all	NE	all	433	*	*	*	*	*	0.27	*	0.18	*

See supporting text and Table 1 for abbreviations.

Table 12. Expected coefficients of variations (CVs) derived from SBRM 2011 standard sea days and SBRM 2010 species group variances of total discard (1-year lag). Red font indicated CVs less than or equal to 30%.
Note: MA large mesh gillnet (Row 20) was a "pilot" fleet in SBRM 2010 for fish only; thus no CV could be calculated from this scenario.

Row	Gear Type	Access Area	Trip Cat.	Region	Mesh Group	SBRM 2011 Standard Sea Days	RCRAB	SCAL	SBM	MONK	GFL	GFS	SKATE	DOG	FSB
2	Longline	OPEN	all	NE	all	184	*	*	*	*	*	*	*	*	*
5	Otter Trawl	OPEN	all	MA	sm	937	*	*	0.26	*	*	0.22	0.26	0.25	0.38
6	Otter Trawl	OPEN	all	MA	lg	161	*	*	*	*	0.30	1.23	0.30	0.37	0.39
7	Otter Trawl	OPEN	all	NE	sm	762	*	*	*	*	*	0.39	*	0.52	0.54
8	Otter Trawl	OPEN	all	NE	lg	5183	*	*	*	0.08	0.03	0.10	0.03	0.06	0.07
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	59									
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	86	*	*	*	0.22	*	*	*	0.21	*
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	147	*	*	*	*	0.19	*	*	0.31	*
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	256	*	*	*	0.22	*	*	0.16	0.17	*
29	Scallop Dredge	AA	LIM	MA	all	178	*	*	*	*	*	*	*	*	*
30	Scallop Dredge	AA	LIM	NE	all	170	*	*	*	0.38	*	*	*	*	*
31	Scallop Dredge	OPEN	GEN	MA	all	43	*	*	*	*	*	*	0.32	*	*
32	Scallop Dredge	OPEN	GEN	NE	all	0									
33	Scallop Dredge	OPEN	LIM	MA	all	983	*	*	*	0.12	*	*	0.11	0.12	0.21
34	Scallop Dredge	OPEN	LIM	NE	all	658	*	0.24	*	0.18	0.12	0.21	0.13	0.25	0.19
36	Mid-water Paired & Single Trawl	OPEN	all	NE	all	190	*	*	*	*	*	0.46	*	0.29	*

See supporting text and Table 1 for abbreviations.

Table 13. Expected coefficients of variations (CVs) derived from SBRM 2010 standard sea days and SBRM 2011 species group variances of total discard (1-year lag). Red font indicated CVs less than or equal to 30%.

Row	Gear Type	Access Area	Trip Cat.	Region	Mesh Group	SBRM 2010 Standard Sea Days	RCRAB	SCAL	SBM	MONK	GFL	GFS	SKATE	DOG	FSB
2	Longline	OPEN	all	NE	all	0									
5	Otter Trawl	OPEN	all	MA	sm	1359	*	*	0.24	*	*	0.21	0.17	0.18	0.19
6	Otter Trawl	OPEN	all	MA	lg	2175	*	*	*	0.06	0.07	*	0.06	0.07	0.06
7	Otter Trawl	OPEN	all	NE	sm	2192	*	*	0.15	*	*	0.16	0.15	0.13	0.13
8	Otter Trawl	OPEN	all	NE	lg	668	0.99	*	*	0.14	0.11	0.24	0.12	0.13	0.20
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	0									
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	46	*	*	*	0.41	*	*	*	*	*
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	159	*	*	*	*	0.23	*	*	0.29	*
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	140	*	*	*	0.41	*	*	0.22	0.35	*
29	Scallop Dredge	AA	LIM	MA	all	0									
30	Scallop Dredge	AA	LIM	NE	all	255	*	*	*	0.24	*	*	*	*	*
31	Scallop Dredge	OPEN	GEN	MA	all	49	*	*	*	*	*	*	0.28	*	*
32	Scallop Dredge	OPEN	GEN	NE	all	23	*	*	*	*	*	*	*	*	*
33	Scallop Dredge	OPEN	LIM	MA	all	494	*	*	*	0.18	0.43	*	0.20	*	*
34	Scallop Dredge	OPEN	LIM	NE	all	475	*	0.28	*	0.16	0.23	*	0.21	*	0.36
36	Mid-water Paired & Single Trawl	OPEN	all	NE	all	379	*	*	*	*	*	*	*	0.19	*

See supporting text and Table 1 for abbreviations.

Table 14. Expected coefficients of variations (CVs) derived from SBRM 2011 standard sea days and SBRM 2009 species group variances of total discard (2-year lag). Red font indicated CVs less than or equal to 30%.

Row	Gear Type	Access Area	Trip Cat.	Region	Mesh Group	SBRM 2011 Standard Sea Days	RCRAB	SCAL	SBM	MONK	GFL	GFS	SKATE	DOG	FSB
2	Longline	OPEN	all	NE	all	184	*	*	*	*	*	*	*	0.52	*
5	Otter Trawl	OPEN	all	MA	sm	937	*	*	*	0.24	*	0.35	0.16	0.24	0.20
6	Otter Trawl	OPEN	all	MA	lg	161	*	*	*	*	0.61	*	0.24	0.40	0.39
7	Otter Trawl	OPEN	all	NE	sm	762	*	*	0.18	*	0.34	0.17	0.42	0.43	0.85
8	Otter Trawl	OPEN	all	NE	lg	5183	0.15	*	*	0.04	0.03	0.13	0.03	0.06	0.06
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	59	*	*	*	*	*	*	*	0.47	*
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	86	*	*	*	*	*	*	*	0.26	*
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	147	*	*	*	*	0.19	*	*	0.18	*
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	256	*	*	*	0.24	*	*	*	0.20	*
29	Scallop Dredge	AA	LIM	MA	all	178	*	*	*	0.38	*	*	*	*	*
30	Scallop Dredge	AA	LIM	NE	all	170	*	*	*	0.36	*	*	*	*	*
31	Scallop Dredge	OPEN	GEN	MA	all	43	*	*	*	0.59	*	*	0.20	*	*
32	Scallop Dredge	OPEN	GEN	NE	all	0									
33	Scallop Dredge	OPEN	LIM	MA	all	983	*	*	*	0.15	*	*	0.10	0.19	0.17
34	Scallop Dredge	OPEN	LIM	NE	all	658	*	0.26	*	0.16	0.12	*	0.12	*	0.18
36	Mid-water Paired & Single Trawl	OPEN	all	NE	all	190	*	*	*	*	*	*	*	0.51	*

See supporting text and Table 1 for abbreviations.

Table 15. Expected coefficients of variations (CVs) derived from SBRM 2009 standard sea days and SBRM 2011 species group variances of total discard (2-year lag). Red font indicated CVs less than or equal to 30%.

Row	Gear Type	Access Area	Trip Cat.	Region	Mesh Group	SBRM 2009 Standard Sea Days	RCRAB	SCAL	SBM	MONK	GFL	GFS	SKATE	DOG	FSB
2	Longline	OPEN	all	NE	all	456	*	*	*	*	*	*	*	0.16	*
5	Otter Trawl	OPEN	all	MA	sm	1242	*	*	0.26	*	*	0.22	0.18	0.19	0.20
6	Otter Trawl	OPEN	all	MA	lg	651	*	*	*	0.13	0.15	*	0.11	0.14	0.13
7	Otter Trawl	OPEN	all	NE	sm	4027	*	*	0.09	*	*	0.10	0.09	0.08	0.08
8	Otter Trawl	OPEN	all	NE	lg	1233	*	*	*	0.10	0.08	0.17	0.09	0.09	0.14
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	139	*	*	*	*	*	*	*	0.19	*
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	67	*	*	*	0.34	*	*	*	*	*
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	60	*	*	*	*	0.38	*	*	0.47	*
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	171	*	*	*	0.37	*	*	0.20	0.32	*
29	Scallop Dredge	AA	LIM	MA	all	271	*	*	*	0.20	*	*	0.24	*	*
30	Scallop Dredge	AA	LIM	NE	all	233	*	*	*	0.25	*	*	*	*	*
31	Scallop Dredge	OPEN	GEN	MA	all	167	*	*	*	*	*	*	0.15	*	*
32	Scallop Dredge	OPEN	GEN	NE	all	43	*	*	*	*	*	*	*	*	*
33	Scallop Dredge	OPEN	LIM	MA	all	398	*	*	*	0.20	0.48	*	0.23	*	*
34	Scallop Dredge	OPEN	LIM	NE	all	254	*	*	*	0.23	0.32	*	0.29	*	0.49
36	Mid-water Paired & Single Trawl	OPEN	all	NE	all	433	*	*	*	*	*	*	*	0.18	*

See supporting text and Table 1 for abbreviations.

Table 16. The source (variance-based, pilot-based, or zero) of the sea days for the species group and the SBRM standard sea days, with and without the unlikely filter (F1), for pilot fleets. F3 represents the fraction of discard filter; F4 represents the fraction of total mortality filter; Fimp represents the importance filter (where Fimp=F1*F3*F4). Red bold font indicates value changes that would occur as a result of removing F1 (when all F1 are set to 1 it is equivalent to removing the F1 filter from the Fimp).

Scenarios	F1	F3	F4	Fimp	Fleet/Species Group sea days (cell level)	SBRM standard sea days (fleet level)
With unlikely filter (F1 = 0)	0	1	1	0	0	pilot days
Without unlikely filter (F1 = 1)	**1**	1	1	**1**	**pilot days**	pilot days

Table 17. The source (variance-based, pilot-based, or zero) of the sea days for the fleet/species group and the SBRM standard sea day with and without the unlikely filter (F1), for non-pilot fleets. F3 represents the fraction of discard filter; F4 represents the fraction of total mortality filter; Fimp represents the importance filter (where Fimp=F1*F3*F4). Red bold font indicates value changes that would occur as a result of removing F1(when all F1 are set to 1 it is equivalent to removing the F1 filter from the Fimp).

Scenarios	Case	F1	F3	F4	Fimp	Fleet/Species Group sea days (cell level)	SBRM standard sea days (fleet level)
With unlikely filter (F1 = 0)	A	0	0	0	0	0	Variance-based or pilot-based
	B	0	1	0	0	0	Variance-based or pilot-based
	C	0	0	1	0	0	Variance-based or pilot-based
	D	0	1	1	0	0	Variance-based or pilot-based
Without unlikely filter (F1 = 1)	E	**1**	0	0	0	0	Variance-based or pilot-based
	F	**1**	1	0	0	0	Variance-based or pilot-based
	G	**1**	0	1	0	0	Variance-based or pilot-based
	H	**1**	1	1	**1**	**Variance-based**	**Variance-based; species group may be different**

Table 18. SBRM standard trips needed to achieve a 30% coefficient of variation, Vessel Trip Report (VTR) trips, the percentage of standard trips to the VTR trips, and the determining species group, by SBRM year. "PILOT" indicates standard trips were based on pilot coverage, red bold "PILOT" indicates that all cells within the fleet were filtered out and the number of trips is based on pilot coverage to maintain coverage. Dark shading represents fleets not considered in annual analysis; orange shading indicates fleets with pilot designation.

						SBRM Standard Trips			VTR Trips			Percent of SBRM Standard Trips to VTR trips			SBRM Species Group		
Row	Gear Type	Access Area	Trip Cat.	Region	Mesh Group	2009 SBRM	2010 SBRM	2011 SBRM	2009 SBRM	2010 SBRM	2011 SBRM	2009 SBRM	2010 SBRM	2011 SBRM	2009 SBRM	2010 SBRM	2011 SBRM
1	Longline	OPEN	all	MA	all	12	12	12	132	139	151	9%	9%	8%	PILOT	PILOT	PILOT
2	Longline	OPEN	all	NE	all	325	17	138	1,076	872	1,043	30%	2%	13%	DOG	**PILOT**	DOG
3	Hand Line	OPEN	all	MA	all	72	64	70	3,584	3,182	3,485	2%	2%	2%	PILOT	PILOT	PILOT
4	Hand Line	OPEN	all	NE	all	42	48	46	2,094	2,427	2,295	2%	2%	2%	PILOT	**PILOT**	**PILOT**
5	Otter Trawl	OPEN	all	MA	sm	700	603	675	4,151	3,831	3,805	17%	16%	18%	TURS	TURS	TURS
6	Otter Trawl	OPEN	all	MA	lg	771	1112	1406	6,090	6,144	5,689	13%	18%	25%	TURS	GFS	TURS
7	Otter Trawl	OPEN	all	NE	sm	1711	901	1879	3,656	3,259	3,668	47%	28%	51%	FSB	FSB	TURS
8	Otter Trawl	OPEN	all	NE	lg	505	265	2172	11,392	10,308	10,395	4%	3%	21%	GFS	GFS	RCRAB
9 +	Scallop Trawl	AA	GEN	MA	all	12	6	7	93	84	124	13%	7%	6%	PILOT	PILOT	PILOT
10 +	Scallop Trawl	AA	LIM	MA	all	8	7	12	14	5	11	59%	132%	107%	PILOT	PILOT	PILOT
11	Scallop Trawl	OPEN	GEN	MA	all	20	21	16	804	890	455	2%	2%	3%	PILOT	PILOT	PILOT
12	Scallop Trawl	OPEN	LIM	MA	all	13	13	13	84	36	36	16%	36%	36%	PILOT	PILOT	PILOT
13 +	Otter Trawl, Ruhle	OPEN	all	NE	lg		3	4		6	9		50%	46%		PILOT	**PILOT**
14 +	Otter Trawl, Haddock Separator	OPEN	all	NE	lg			6			13			44%			**PILOT**
15	Shrimp Trawl	OPEN	all	MA	all	19	21	14	862	944	443	2%	2%	3%	PILOT	PILOT	PILOT
16	Shrimp Trawl	OPEN	all	NE	all	59	35	17	2,706	1,453	2,533	2%	2%	1%	TURS	**PILOT**	GFS
17 +	Floating Trap	OPEN	all	MA	all		8	3		21	16		37%	19%		PILOT	PILOT
18 +	Floating Trap	OPEN	all	NE	all		9	9		138	111		7%	8%		PILOT	PILOT
19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	1115	34	37	1,960	1,668	1,883	57%	2%	2%	TURS	**PILOT**	PILOT
20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	132	431	691	839	1,064	1,506	16%	41%	46%	DOG	TURS	TURS
21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	938	306	70	2,906	2,419	2,097	32%	13%	3%	TURS	TURS	MONK
22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	12	12	12	80	55	28	15%	21%	41%	PILOT	PILOT	PILOT
23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	163	136	130	8,147	8,846	9,468	2%	2%	1%	TURS	DOG	DOG
24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	114	97	179	3,679	3,184	3,399	3%	3%	5%	MONK	MONK	MONK
25	Purse Seine	OPEN	all	MA	all	9	8	9	227	211	214	4%	4%	4%	PILOT	PILOT	PILOT
26	Purse Seine	OPEN	all	NE	all	11	12	9	343	300	216	3%	4%	4%	TURS	**PILOT**	**PILOT**
27	Scallop Dredge	AA	GEN	MA	all	22	24	13	916	853	75	2%	3%	17%	**PILOT**	**PILOT**	PILOT
28	Scallop Dredge	AA	GEN	NE	all	15	6	6	190	105	3	8%	6%	212%	**PILOT**	**PILOT**	PILOT
29	Scallop Dredge	AA	LIM	MA	all	34	12	23	409	392	350	8%	3%	7%	MONK	**PILOT**	SKATE
30	Scallop Dredge	AA	LIM	NE	all	28	31	16	313	214	137	9%	14%	12%	MONK	MONK	MONK
31	Scallop Dredge	OPEN	GEN	MA	all	107	33	31	8,679	6,177	3,059	1%	1%	1%	MONK	SKATE	SKATE
32	Scallop Dredge	OPEN	GEN	NE	all	27	14	46	3,555	1,957	2,328	1%	1%	2%	SKATE	SKATE	**PILOT**
33	Scallop Dredge	OPEN	LIM	MA	all	46	389	155	1,343	1,054	1,115	3%	37%	14%	DOG	TURS	TURS
34	Scallop Dredge	OPEN	LIM	NE	all	25	46	57	1,637	1,082	1,037	2%	4%	6%	FSB	DOG	FSB
35	Mid-water Paired & Single Trawl	OPEN	all	MA	all	8	8	7	44	70	25	18%	12%	27%	PILOT	PILOT	PILOT
36	Mid-water Paired & Single Trawl	OPEN	all	NE	all	107	93	50	302	313	310	35%	30%	16%	DOG	GFS	DOG
37	Pots and Traps, Fish	OPEN	all	MA	all	27	25	23	1,283	1,183	1,050	2%	2%	2%	PILOT	PILOT	PILOT
38	Pots and Traps, Fish	OPEN	all	NE	all	17	13	12	848	508	479	2%	3%	2%	PILOT	PILOT	PILOT
39 +	Pots and Traps, Conch	OPEN	all	MA	all	15	16	20	641	586	751	2%	3%	3%	PILOT	PILOT	PILOT
40 +	Pots and Traps, Conch	OPEN	all	NE	all	14	13	15	679	652	764	2%	2%	2%	PILOT	PILOT	PILOT
41 +	Pots and Traps, Hagfish	OPEN	all	MA	all	9	13	3	23	18	1	41%	71%	300%	PILOT	PILOT	PILOT
42 +	Pots and Traps, Hagfish	OPEN	all	NE	all	13	12	13	157	129	89	8%	10%	14%	TURS	**PILOT**	**PILOT**
43 +	Pots and Traps, Shrimp	OPEN	all	NE	all		9	8		122	232		7%	3%		PILOT	PILOT
44	Pots and Traps, Lobster	OPEN	all	MA	all	56	54	50	2,809	2,697	2,523	2%	2%	2%	PILOT	PILOT	PILOT
45	Pots and Traps, Lobster	OPEN	all	NE	all	342	336	355	29,214	27,232	27,994	1%	1%	1%	PILOT	PILOT	PILOT
46	Pots and Traps, Crab	OPEN	all	MA	all	15	11	12	126	46	112	12%	25%	11%	PILOT	PILOT	PILOT
47	Pots and Traps, Crab	OPEN	all	NE	all	19	15	14	106	122	203	18%	12%	7%	PILOT	PILOT	PILOT
48 +	Beam Trawl	OPEN	all	MA	all		13	13		230	160		6%	8%		PILOT	PILOT
49 +	Beam Trawl	OPEN	all	NE	all		13	12		118	134		11%	9%		PILOT	PILOT
50 +	Dredge, Other	OPEN	all	MA	all		21	19		261	457		8%	4%		PILOT	PILOT
51	Ocean Quahog/Surf Clam Dredge	OPEN	all	MA	all	74	40	35	3,725	2,012	1,712	2%	2%	2%	PILOT	PILOT	PILOT
52	Ocean Quahog/Surf Clam Dredge	OPEN	all	NE	all	55	28	27	2,744	917	1,150	2%	3%	2%	PILOT	PILOT	PILOT
			Total for Rows 1 to 52			**7,839**	**5,472**	**8,671**	**114,662**	**100,536**	**99,343**	7%	5%	9%			

'+' = new fleet; see text for fleet abbreviations.

Row 19 in SBRM 2011 is pilot for fish only; Row 20 in SBRM 2010 is pilot for fish only

Table 19. Projected sea day needs to monitor turtle bycatch on trips capturing managed species in the Mid-Atlantic. Maximum values are highlighted in red.

	Bottom Otter Trawl (from Warden 2011b)				Sink Gillnet (from Murray 2009b)				Dredge (from Murray 2011)			
Fish Species	**CV_{obs}**	observed tons landed (2005-08)	projected tons landed	projected sea days (N_{proj})	**CV_{obs}**	observed tons landed 2002-06	projected tons landed	projected sea days (N_{proj})	**CV_{obs}**	observed dredge hours 06-08	projected dredge hours	projected sea days (N_{proj})
Black Drum					0.30	2.0	2.0	38				
Blue Crab	0.5	0.0	0.1	0								
Bluefish	0.15	70.5	17.6	760	0.30	250	250	1046				
Coastal Migratory Spp	0.13	0.2	0.0	3	0.42/0.45	20	41.2	714				
Croaker	0.14	1168.8	254.5	189	0.37	520	791	1257				
Dolphin/Wahoo	0.45	0.0	0.0	0								
Flounder (other)	0.13	2.2	0.4	37								
Herring	0.53	331.1	1033.4	88								
Highly Mig Spp	0.18	0.0	0.0	0								
Horseshoe Crab	0.16	78.3	22.3	63								
Invertebrates	0.15	12.6	3.1	413								
Lobster	0.39	4.9	8.3	1426								
Mackerel	0.55	180.0	604.9	357								
Squid (Illex)	0.44	3999.9	8604.2	802								
Squid (Loligo)	0.25	1504.2	1044.6	2437								
Squid (Unc)	0.21	91.3	44.7	290								
Butterfish	0.22	30.7	16.5	1155								
Menhaden	0.3	47.6	47.6	2774								
Monkfish	0.21	472.1	231.3	2666	0.22	954	513	512				
NE Multispp	0.3	190.3	190.3	**4838**								
Red Crab	1.18	0.0	0.0	0								
Red Drum	0.23	0.1	0.1	5								
Sea Scallop	0.22	507.7	273.0	360					0.18	40597	14615	**1293**
Seatrout	0.29	0.6	0.6	19								
Shad & river Herring	0.42	13.0	25.6	1391								
Shrimp, Northern	0.46	0.0	0.0	0								
Skates	0.23	1817.9	1068.5	1776	0.27	361	292.4	654				
Smooth Dog	0.18	15.4	5.5	140	0.32	68	77.4	226				
Snapper/Grouper	0.15	0.0	0.0	0								
Spiny Dog	0.34	14.5	18.7	357	0.29	34	31.7	98				
Spot	0.17	0.6	0.2	19	0.56	52	181.2	**1440**				
Striped Bass	0.27	4.6	3.8	164	0.44	35	75.3	348				
Summer Fl	0.13	706.0	132.6	807	0.38	10	16	745				
Scup	0.37	209.3	318.3	924								
Black Sea Bass	0.26	58.9	44.2	2869								
Tautog	0.35	2.3	3.2	646								
Tilefish	0.25	2.5	1.7	204								
Weakfish	0.15	10.4	2.6	309	0.29	30	28	693				
Other	0.23	212.4	124.8	63								

Table 20. Summary of statistical comparisons of differences in average kept pounds and differences in standard deviation of average kept pounds between unobserved and observed trips, by SBRM species group and SBRM year. P-values less than 0.05 are in bold.

SBRM Year	SpeciesGroup	Average Kept Pounds					Standard Deviation of Average Kept Pounds				
		Unobs - Obs	N	SE	t-value	Pr >|t|	Unobs - Obs	N	SE	t-value	Pr >|t|
2009	All Species	-4658.0	99	5190.927	-0.90	0.372	-5008.5	83	6409.498	-0.78	0.437
	Bluefish	0.2	99	22.205	0.01	0.993	112.1	83	55.915	2.00	**0.048**
	Fluke-Scup-Black Sea Bass	-16.8	99	74.068	-0.23	0.821	-25.9	83	68.458	-0.38	0.706
	Herring, Atlantic	-4732.4	99	4144.765	-1.14	0.256	-3365.3	83	6393.703	-0.53	0.600
	Large mesh Groundfish	-404.2	99	171.428	-2.36	**0.020**	-315.1	83	181.734	-1.73	0.087
	Monkfish	-143.3	99	55.415	-2.59	**0.011**	-99.8	83	57.263	-1.74	0.085
	Red Crab	66.9	99	66.706	1.00	0.318	0.1	83	0.080	1.53	0.130
	Scallop	579.4	99	900.091	0.64	0.521	631.0	83	801.103	0.79	0.433
	Surfclams-Ocean Quahog	0.0	99	0.004	-0.71	0.477	0.0	83	0.057	-0.36	0.719
	Skate Complex	-240.5	99	92.192	-2.61	**0.011**	-343.1	83	154.026	-2.23	**0.029**
	Small mesh Groundfish	82.8	99	40.328	2.05	**0.043**	408.4	83	126.762	3.22	**0.002**
	Spiny Dogfish	14.1	99	11.503	1.23	0.222	15.0	83	18.755	0.80	0.426
	Squid-Butterfish-Mackerel	-41.8	99	1223.174	-0.03	0.973	-1398.3	83	2782.251	-0.50	0.617
	Tilefish	-239.1	99	146.506	-1.63	0.106	17.6	83	12.005	1.47	0.146

Table 20, continued. Summary of statistical comparisons of differences in average kept pounds and difference in standard deviation of average kept pounds between unobserved and observed trips, by SBRM species group and SBRM year. P-values less than 0.05 are in bold.

SBRM Year	Species Group	Average Kept Pounds					Standard Deviation of Average Kept Pounds				
		Unobs - Obs	N	SE	t-value	Pr >|t|	Unobs - Obs	N	SE	t-value	Pr >|t|
2010	All Species	-7478.9	96	4944.941	-1.51	0.134	-3178.6	86	5967.146	-0.53	0.596
	Bluefish	7.6	96	10.018	0.76	0.447	51.1	86	34.829	1.47	0.146
	Fluke-Scup-Black Sea Bass	-72.7	96	60.656	-1.20	0.234	188.6	86	93.447	2.02	**0.047**
	Herring, Atlantic	-5766.4	96	4050.628	-1.42	0.158	-1256.0	86	4240.049	-0.30	0.768
	Large mesh Groundfish	-505.4	96	210.842	-2.40	**0.019**	-420.7	86	173.159	-2.43	**0.017**
	Monkfish	-112.4	96	37.984	-2.96	**0.004**	-55.9	86	65.160	-0.86	0.393
	Red Crab	-303.0	96	845.134	-0.36	0.721	-1.7	86	2.515	-0.66	0.510
	Scallop	1281.4	96	1208.557	1.06	0.292	-838.9	86	1027.797	-0.82	0.417
	Surfclams-Ocean Quahog	0.0	96	0.004	-0.93	0.353	0.0	86	0.030	-0.73	0.468
	Skate Complex	-173.0	96	89.105	-1.94	0.055	-82.1	86	127.729	-0.64	0.522
	Small mesh Groundfish	8.6	96	42.846	0.20	0.842	106.6	86	125.762	0.85	0.399
	Spiny Dogfish	-4.2	96	14.978	-0.28	0.780	14.2	86	36.163	0.39	0.695
	Squid-Butterfish-Mackerel	-3250.6	96	1902.277	-1.71	0.091	-8261.5	86	4647.448	-1.78	0.079
	Tilefish	0.1	96	0.162	0.59	0.558	1.6	86	1.146	1.42	0.159

Table 20, continued. Summary of statistical comparisons of differences in average kept pounds and differences in standard deviation of average kept pounds between unobserved and observed trips, by SBRM species group and SBRM year. P-values less than 0.05 are in bold.

SBRM Year	Species Group	Average Kept Pounds					Standard Deviation of Average Kept Pounds				
		Unobs - Obs	N	SE	t-value	Pr >|t|	Unobs - Obs	N	SE	t-value	Pr >|t|
2011	All Species	6811.4	89	3567.639	1.91	0.060	11929.5	82	9953.485	1.20	0.234
	Bluefish	31.9	89	24.470	1.30	0.196	114.0	82	49.567	2.30	**0.024**
	Fluke-Scup-Black Sea Bass	-103.0	89	58.830	-1.75	0.084	92.7	82	97.981	0.95	0.347
	Herring, Atlantic	3740.9	89	2464.268	1.52	0.133	11771.9	82	9745.096	1.21	0.231
	Large mesh Groundfish	-373.9	89	167.026	-2.24	**0.028**	-302.1	82	129.219	-2.34	**0.022**
	Monkfish	-90.4	89	51.212	-1.77	0.081	-80.1	82	61.243	-1.31	0.195
	Red Crab	0.0	89	0.011	1.99	0.050	0.7	82	0.348	2.03	**0.046**
	Scallop	2498.4	89	1485.386	1.68	0.096	2848.1	82	1561.631	1.82	0.072
	Surfclams-Ocean Quahog	1.1	89	1.074	1.00	0.321	21.7	82	21.703	1.00	0.320
	Skate Complex	-80.8	89	62.579	-1.29	0.200	7.2	82	110.131	0.07	0.948
	Small mesh Groundfish	-34.8	89	61.083	-0.57	0.571	112.2	82	95.089	1.18	0.242
	Spiny Dogfish	3.2	89	9.459	0.34	0.734	50.9	82	32.978	1.54	0.127
	Squid-Butterfish-Mackerel	1674.1	89	1869.964	0.90	0.373	-599.8	82	2204.893	-0.27	0.786
	Tilefish	0.1	89	0.178	0.40	0.692	0.8	82	0.733	1.11	0.271

Table 21. Summary of statistical comparisons of differences in average trip duration and standard deviation of average trip duration between unobserved and observed trips by SBRM year. P-values less than 0.05 are in bold.

SBRM Year	Average Trip Duration (days)					Standard Deviation of Average Trip Duration				
	Unobs - Obs Avg Trip Duration	N	SE	t-value	Pr >|t|	Unobs - Obs SD Trip Duration	N	SE	t-value	Pr >|t|
2009	-0.28	99	0.144	-1.97	0.052	0.058	83	0.073	0.80	0.426
2010	-0.47	96	0.138	-3.40	**0.001**	-0.033	86	0.072	-0.46	0.647
2011	-0.26	89	0.089	-2.97	**0.004**	0.103	82	0.066	1.57	0.120

Table 22. Number of trips (with Yates's correction) by gear type, region and area fished for observed trips and unobserved trips and SBRM year. Area fished is based on subarea where MA represents Subarea 6 and NE represents Subarea 5. Region is based on port of departure where MA represents ports located in states from Connecticut and southward and NE represents ports located in states from Maine to Rhode Island). The odds ratio, associated standard error (SE lnO), and 95% confidential interval (CI_lo and CI_hi) are also presented. N/A = not applicable.

			Observed Trips				Unobserved Trips			
SBRM			Area Fished		**Odds**	*SE(lnO)*	Area Fished		**Odds**	*SE(lnO)*
Year	Fleet	Region	MA	NE	CI_lo	CI_hi	MA	NE	CI_lo	CI_hi
2009	Longline	MA	1.5	2.5	**105**	*1.754*	93.5	35.5	**761.9**	*0.571*
	(Rows 1 and 2)	NE	0.5	87.5	3.4	3270.4	3.5	1012.5	249.0	2331.3
	Otter Trawl small mesh	MA	176.5	6.5	**95.4**	*0.483*	3778.5	280.5	**71.0**	*0.077*
	(Rows 5 and 7)	NE	17.5	61.5	37.1	245.7	580.5	3061.5	61.1	82.6
	Otter Trawl large mesh	MA	156.5	13.5	**280.5**	*0.344*	5488.5	234.5	**726.2**	*0.087*
	(Rows 6 and 8)	NE	27.5	665.5	143.0	550.6	333.5	10347.5	612.5	860.9
	Gillnet small mesh	MA	239.5	0.5	**N/A**		1842.5	10.5	**27198.8**	*1.452*
	(Rows 19 and 22)	NE	0.5	-0.5			0.5	77.5	1579.3	468412.7
	Gillnet large mesh	MA	69.5	0.5	**73531.0**	*2.005*	786.5	6.5	**108181.1**	*0.522*
	(Rows 20 and 23)	NE	0.5	264.5	1446.0	3739098.8	8.5	7599.5	38858.0	301177.7
	Gillnet extra-large mesh	MA	117.5	1.5	**7629.7**	*1.039*	2781.5	60.5	**1584.4**	*0.165*
	(Rows 21 and 24)	NE	2.5	243.5	995.8	58455.2	98.5	3394.5	1145.9	2190.8
	Scallop Dredge AA GEN	MA	151.5	0.5	**45147.0**	*2.005*	869.5	1.5	**17548.1**	*0.925*
	(Rows 27 and 28)	NE	0.5	74.5	887.0	2297836.0	5.5	166.5	2863.2	107550.7
	Scallop Dredge AA LIM	MA	64.5	6.5	**5.4**	*0.452*	354.5	25.5	**11.2**	*0.239*
	(Rows 29 and 30)	NE	82.5	44.5	2.2	13.0	148.5	119.5	7.0	17.9
	Scallop Dredge OPEN GEN	MA	25.5	1.5	**51.0**	*1.113*	8166.5	405.5	**703.6**	*0.115*
	(Rows 31 and 32)	NE	2.5	7.5	5.8	452.0	97.5	3406.5	562.1	880.9
	Scallop Dredge OPEN LIM	MA	47.5	1.5	**80.9**	*0.866*	1167.5	88.5	**17.5**	*0.122*
	(Rows 33 and 34)	NE	22.5	57.5	14.8	441.6	636.5	846.5	13.8	22.3
	Mid-water trawl	MA	2.5	0.5	**8.8**	*1.575*	38.5	4.5	**13.4**	*0.514*
	(Rows 35 and 36)	NE	19.5	34.5	0.4	193.8	101.5	159.5	4.9	36.8

Table 22, continued. Number of trips (with Yates's correction) by gear type, region and area fished for observed trips and unobserved trips and SBRM year. Area fished is based on subarea where MA represents Subarea 6 and NE represents Subarea 5. Region is based on port of departure where MA represents ports located in states from Connecticut and southward and NE represents ports located in states from Maine to Rhode Island). The odds ratio, associated standard error (SE lnO), and 95% confidential interval (CI_lo and CI_hi) are also presented. N/A = not applicable.

			Observed Trips				Unobserved Trips			
SBRM			Area Fished		**Odds**	*SE(lnO)*	Area Fished		**Odds**	*SE(lnO)*
Year	Fleet	Region	MA	NE	CI_lo	CI_hi	MA	NE	CI_lo	CI_hi
2010	Longline	MA	-0.5	0.5	**N/A**		78.5	59.5	**419.3**	*0.656*
	(Rows 1 and 2)	NE	0.5	86.5			2.5	794.5	115.8	1517.8
	Otter Trawl small mesh	MA	133.5	8.5	**54.8**	*0.406*	3514.5	242.5	**63.8**	*0.080*
	(Rows 5 and 7)	NE	32.5	113.5	24.8	121.5	594.5	2617.5	54.5	74.7
	Otter Trawl large mesh	MA	118.5	3.5	**1562.3**	*0.594*	5517.5	304.5	**674.2**	*0.087*
	(Rows 6 and 8)	NE	17.5	807.5	487.9	5002.2	248.5	9245.5	568.3	799.8
	Gillnet small mesh	MA	154.5	0.5	**N/A**		1599.5	1.5	**111965.0**	*1.639*
	(Rows 19 and 22)	NE	0.5	-0.5			0.5	52.5	4507.5	2781198.9
	Gillnet large mesh	MA	59.5	1.5	**26616.3**	*1.639*	1018.5	7.5	**97982.7**	*0.471*
	(Rows 20 and 23)	NE	0.5	335.5	1071.4	661192.2	11.5	8297.5	38961.1	246414.8
	Gillnet extra-large mesh	MA	125.5	0.5	**25685.7**	*1.637*	2243.5	82.5	**743.3**	*0.149*
	(Rows 21 and 24)	NE	1.5	153.5	1037.3	636051.4	108.5	2965.5	555.3	994.8
	Scallop Dredge AA GEN	MA	115.5	0.5	**25641.0**	*2.007*	803.5	1.5	**17462.7**	*1.039*
	(Rows 27 and 28)	NE	0.5	55.5	502.1	1309292.5	2.5	81.5	2277.3	133905.1
	Scallop Dredge AA LIM	MA	97.5	4.5	**12.2**	*0.515*	337.5	10.5	**13.5**	*0.353*
	(Rows 29 and 30)	NE	84.5	47.5	4.4	33.4	129.5	54.5	6.8	27.0
	Scallop Dredge OPEN GEN	MA	34.5	0.5	**529.0**	*1.668*	5983.5	112.5	**1463.6**	*0.156*
	(Rows 31 and 32)	NE	1.5	11.5	20.1	13911.8	67.5	1857.5	1077.6	1988.0
	Scallop Dredge OPEN LIM	MA	70.5	0.5	**264.1**	*1.439*	904.5	34.5	**23.2**	*0.185*
	(Rows 33 and 34)	NE	27.5	51.5	15.7	4429.7	499.5	441.5	16.1	33.3
	Mid-water trawl	MA	1.5	0.5	**5.0**	*1.649*	66.5	0.5	**180.1**	*1.425*
	(Rows 35 and 36)	NE	30.5	50.5	0.2	125.8	104.5	141.5	11.0	2943.0

Table 22, continued. Number of trips (with Yates's correction) by gear type, region and area fished for observed trips and unobserved trips and SBRM year. Area fished is based on subarea where MA represents Subarea 6 and NE represents Subarea 5. Region is based on port of departure where MA represents ports located in states from Connecticut and southward and NE represents ports located in states from Maine to Rhode Island). The odds ratio, associated standard error (SE lnO), and 95% confidential interval (CI_lo and CI_hi) are also presented. N/A = not applicable.

			Observed Trips				Unobserved Trips			
SBRM			Area Fished		**Odds**	*SE(lnO)*	Area Fished		**Odds**	*SE(lnO)*
Year	Fleet	Region	MA	NE	CI_lo	CI_hi	MA	NE	CI_lo	CI_hi
	Longline	MA	-0.5	0.5	**N/A**		94.5	56.5	**349.2**	*0.502*
	(Rows 1 and 2)	NE	0.5	119.5			4.5	939.5	130.7	933.3
	Otter Trawl small mesh	MA	252.5	17.5	**32.2**	*0.276*	3443.5	230.5	**73.0**	*0.082*
	(Rows 5 and 7)	NE	97.5	217.5	18.8	55.2	590.5	2883.5	62.2	85.6
	Otter Trawl large mesh	MA	200.5	4.5	**1058.4**	*0.507*	4927.5	297.5	**540.3**	*0.085*
	(Rows 6 and 8)	NE	34.5	819.5	391.5	2860.9	284.5	9280.5	457.6	638.0
	Gillnet small mesh	MA	119.5	0.5	**N/A**		1810.5	2.5	**36934.2**	*1.562*
	(Rows 19 and 22)	NE	0.5	-0.5			0.5	25.5	1729.2	788876.9
	Gillnet large mesh	MA	94.5	0.5	**50337.0**	*1.637*	1434.5	4.5	**41131.6**	*0.487*
	(Rows 20 and 23)	NE	1.5	399.5	2034.5	1245447.4	68.5	8838.5	15820.8	106935.6
2011	Gillnet extra-large mesh	MA	98.5	4.5	**1296.3**	*0.677*	1888.5	128.5	**443.8**	*0.136*
	(Rows 21 and 24)	NE	4.5	266.5	343.9	4886.5	102.5	3095.5	340.2	579.0
	Scallop Dredge AA GEN	MA	4.5	0.5	**N/A**		70.5	0.5	**28.2**	*2.101*
	(Rows 27 and 28)	NE	0.5	-0.5			2.5	0.5	0.5	1732.4
	Scallop Dredge AA LIM	MA	27.5	0.5	**N/A**		326.5	1.5	**6.0**	*0.981*
	(Rows 29 and 30)	NE	30.5	-0.5			127.5	3.5	0.9	40.9
	Scallop Dredge OPEN GEN	MA	45.5	0.5	**819.0**	*1.662*	2997.5	15.5	**3430.1**	*0.271*
	(Rows 31 and 32)	NE	1.5	13.5	31.5	21287.7	123.5	2190.5	2016.9	5833.4
	Scallop Dredge OPEN LIM	MA	61.5	1.5	**52.7**	*0.860*	1029.5	21.5	**31.1**	*0.228*
	(Rows 33 and 34)	NE	31.5	40.5	9.8	284.4	579.5	376.5	19.9	48.6
	Mid-water trawl	MA	3.5	0.5	**54.3**	*1.537*	21.5	0.5	**102.0**	*1.439*
	(Rows 35 and 36)	NE	14.5	112.5	2.7	1105.4	60.5	143.5	6.1	1711.0

Table 23. Summary of contingency table analyses of spatial distributions of unobserved and observed trips by fleet and SBRM year. Expected value of observed trips is based on proportions of unobserved trips by statistical area. Critical value of Chi-Square statistics is based on alpha level of 0.05. Degrees of freedom are based on the number of statistical areas reported in the unobserved trips; * indicates fleets with no observed trips.

SBRM Year	Row	Gear Type	Access Area	Trip Cat.	Region	Mesh Group	df	Chi Sq Test Statistic	Chi Sq Crit Value	Signif Level
2009	1	Longline	OPEN	all	MA	all	10	1.981	18.307	0.996
	2	Longline	OPEN	all	NE	all	15	131.557	24.996	0.000
	5	Otter Trawl	OPEN	all	MA	sm	27	294.723	40.113	0.000
	6	Otter Trawl	OPEN	all	MA	lg	25	132.304	37.652	0.000
	7	Otter Trawl	OPEN	all	NE	sm	26	37.806	38.885	0.063
	8	Otter Trawl	OPEN	all	NE	lg	24	2919.469	36.415	0.000
	16	Shrimp Trawl	OPEN	all	NE	all	7	14.521	14.067	0.043
	19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	14	299.631	23.685	0.000
	20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	16	95.766	26.296	0.000
	21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	16	195.827	26.296	0.000
	22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	4	0.545	9.488	0.969
	23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	17	68.217	27.587	0.000
	24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	14	195.990	23.685	0.000
	27	Scallop Dredge	AA	GEN	MA	all	5	15.938	11.070	0.007
	28	Scallop Dredge	AA	GEN	NE	all	5	19.388	11.070	0.002
	29	Scallop Dredge	AA	LIM	MA	all	5	30.201	11.070	0.000
	30	Scallop Dredge	AA	LIM	NE	all	8	42.157	15.507	0.000
	31	Scallop Dredge	OPEN	GEN	MA	all	21	43.568	32.671	0.003
	32	Scallop Dredge	OPEN	GEN	NE	all	22	20.294	33.924	0.565
	33	Scallop Dredge	OPEN	LIM	MA	all	20	42.532	31.410	0.002
	34	Scallop Dredge	OPEN	LIM	NE	all	28	70.514	41.337	0.000
	35	Mid-water Paired & Single Trawl	OPEN	all	MA	all	5	1.156	11.070	0.949
	36	Mid-water Paired & Single Trawl	OPEN	all	NE	all	16	46.867	26.296	0.000

Table 23, continued. Summary of contingency table analyses of spatial distributions of unobserved and observed trips by fleet and SBRM year. Expected value of observed trips is based on proportions of unobserved trips by statistical area. Critical value of Chi-Square statistics is based on alpha level of 0.05. Degrees of freedom are based on the number of statistical areas reported in the unobserved trips; * indicates fleets with no observed trips.

SBRM Year	Row	Gear Type	Access Area	Trip Cat.	Region	Mesh Group	df	Chi Sq Test Statistic	Chi Sq Crit Value	Signif Level
2010	1	Longline	OPEN	all	MA	all	*			
	2	Longline	OPEN	all	NE	all	12	136.541	21.026	0.000
	5	Otter Trawl	OPEN	all	MA	sm	22	343.922	33.924	0.000
	6	Otter Trawl	OPEN	all	MA	lg	22	93.089	33.924	0.000
	7	Otter Trawl	OPEN	all	NE	sm	25	101.767	37.652	0.000
	8	Otter Trawl	OPEN	all	NE	lg	21	3186.181	32.671	0.000
	16	Shrimp Trawl	OPEN	all	NE	all	8	2.702	15.507	0.952
	19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	13	162.177	22.362	0.000
	20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	14	52.253	23.685	0.000
	21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	16	186.973	26.296	0.000
	22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	3	0.585	7.815	0.900
	23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	16	44.720	26.296	0.000
	24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	22	38.119	33.924	0.018
	27	Scallop Dredge	AA	GEN	MA	all	4	29.531	9.488	0.000
	28	Scallop Dredge	AA	GEN	NE	all	2	2.037	5.991	0.361
	29	Scallop Dredge	AA	LIM	MA	all	5	9.825	11.070	0.080
	30	Scallop Dredge	AA	LIM	NE	all	5	107.219	11.070	0.000
	31	Scallop Dredge	OPEN	GEN	MA	all	19	13.192	30.144	0.829
	32	Scallop Dredge	OPEN	GEN	NE	all	20	117.124	31.410	0.000
	33	Scallop Dredge	OPEN	LIM	MA	all	18	64.044	28.869	0.000
	34	Scallop Dredge	OPEN	LIM	NE	all	20	168.499	31.410	0.000
	35	Mid-water Paired & Single Trawl	OPEN	all	MA	all	6	7.178	12.592	0.305
	36	Mid-water Paired & Single Trawl	OPEN	all	NE	all	15	70.741	24.996	0.000

Table 23, continued. Summary of contingency table analyses of spatial distributions of unobserved and observed trips by fleet and SBRM year. Expected value of observed trips is based on proportions of unobserved trips by statistical area. Critical value of Chi-Square statistics is based on alpha level of 0.05. Degrees of freedom are based on the number of statistical areas reported in the unobserved trips; * indicates fleets with no observed trips.

SBRM Year	Row	Gear Type	Access Area	Trip Cat.	Region	Mesh Group	df	Chi Sq Test Statistic	Chi Sq Crit Value	Signif Level
2011	1	Longline	OPEN	all	MA	all	*			
	2	Longline	OPEN	all	NE	all	11	58.088	19.675	0.000
	5	Otter Trawl	OPEN	all	MA	sm	25	609.169	37.652	0.000
	6	Otter Trawl	OPEN	all	MA	lg	23	252.786	35.172	0.000
	7	Otter Trawl	OPEN	all	NE	sm	26	209.333	38.885	0.000
	8	Otter Trawl	OPEN	all	NE	lg	23	1638.831	35.172	0.000
	16	Shrimp Trawl	OPEN	all	NE	all	6	8.712	12.592	0.190
	19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	15	90.661	24.996	0.000
	20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	17	57.299	27.587	0.000
	21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	19	115.916	30.144	0.000
	22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	*			
	23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	14	115.017	23.685	0.000
	24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	13	64.897	22.362	0.000
	27	Scallop Dredge	AA	GEN	MA	all	2	6.157	5.991	0.046
	28	Scallop Dredge	AA	GEN	NE	all	*			
	29	Scallop Dredge	AA	LIM	MA	all	3	10.098	7.815	0.018
	30	Scallop Dredge	AA	LIM	NE	all	4	11.641	9.488	0.020
	31	Scallop Dredge	OPEN	GEN	MA	all	14	42.814	23.685	0.000
	32	Scallop Dredge	OPEN	GEN	NE	all	21	40.375	32.671	0.007
	33	Scallop Dredge	OPEN	LIM	MA	all	18	31.380	28.869	0.026
	34	Scallop Dredge	OPEN	LIM	NE	all	19	66.590	30.144	0.000
	35	Mid-water Paired & Single Trawl	OPEN	all	MA	all	3	4.494	7.815	0.213
	36	Mid-water Paired & Single Trawl	OPEN	all	NE	all	14	48.910	23.685	0.000

Table 24. Percentage of kept pounds from VTR unobserved trips for statistical areas that were not sampled by NEFOP observed trips, by SBRM year and grouped fleet. The 23 selected fleets (Rows 1-2, 5-8, 16, 19-24, and 27-36) were grouped across region.

	SBRM Year		
Grouped Fleet	2009	2010	2011
Longline (Rows 1 and 2)	20	51	54
Otter Trawl small mesh (Rows 5 and 7)	8	5	2
Otter Trawl large mesh (Rows 6 and 8)	1	2	1
NE Shrimp Trawl (Row 16)	14	22	3
Gillnet small mesh (Rows 19 and 22)	6	7	8
Gillnet large mesh (Rows 20 and 23)	1	2	2
Gillnet extra large mesh (Rows 21 and 24)	1	2	1
Scallop Dredge AA GEN (Rows 27 and 28)	1	7	23
Scallop Dredge AA LIM (Rows 29 and 30)	0	5	19
Scallop Dredge Open GEN (Rows 31 and 32)	15	7	24
Scallop Dredge Open LIM (Rows 33 and 34)	11	3	2
Mid-water Trawl (Rows 35 and 36)	9	15	3

Table 25. Summary of total estimated discards (mt) and associated coefficient of variation (CV) for individual stocks assessed between SARC 49 (December 2009) and SARC 52 (June 2011), for calendar year 2007 to 2010, as available. *Note: Values were confirmed via personal communication with the stock lead assessment scientists. SARC = Stock Assessment Review Committee;* * = CV not available.

SARC	Species	Stock	Year	Discard (mt)	CV	Gears included
SARC 52	Winter Flounder	Georges Bank	2007	188	0.23	Trawls, Scallop dredge (includes only US discards by scallop dredge/trawl and small and large mesh bottom trawls)
			2008	143	0.14	
			2009	91	0.14	
			2010	138	0.44	
		Southern New England - Mid-Atlantic Bight	2007	115	0.17	Trawls, Scallop dredge *Note: discards are dead discards (assumed 50% mortality)*
			2008	109	0.23	
			2009	165	0.35	
			2010	153	0.34	
		Gulf of Maine	2007	16	0.32	Gillnet, Large mesh otter trawl *Note: discards are dead discards (assumed 50% mortality)*
			2008	9	0.22	
			2009	9	0.17	
			2010	3	0.22	
SARC 51	Offshore Hake	Unit	2007	21	*	Large mesh otter trawl, Small mesh otter trawl, Sink gillnet, Scallop dredge
			2008	1	*	
			2009	31	*	
	Red Hake	Unit	2007	1,673	*	Longline, Large mesh otter trawl, Small mesh otter trawl, Sink gillnet, Scallop dredge, Shrimp trawl
			2008	873	*	
			2009	964	*	
	Silver Hake	Unit	2007	896	*	Longline, Large mesh otter trawl, Small mesh otter trawl, Sink gillnet, Scallop dredge, Shrimp trawl
			2008	1,200	*	
			2009	1,029	*	
	Loligo Squid	Unit	2007	130	0.42	Bottom trawls, Mid-water trawl, Scallop dredge
			2008	106	0.59	
			2009	254	0.40	
SARC 50	Monkfish	North	2007	420	*	Trawl, Gillnet, Shrimp trawl, Scallop dredge
			2008	380	*	
			2009	528	*	
		South	2007	1,774	*	Trawl, Gillnet, Scallop dredge
			2008	1,130	*	
			2009	807	*	
	Pollock	Unit	2007	147	0.25	Large mesh otter trawl, Small mesh otter trawl, Large mesh gillnet, Extra-large mesh gillnet
			2008	362	0.22	
			2009	*none presented*		
	Sea Scallop	Unit	2007	402	0.17	Scallop dredge, Large mesh otter trawl, Small mesh otter trawl, Scallop trawl
			2008	631	0.21	
			2009	1,037	0.12	
SARC 49	Butterfish	Unit	2007	241	0.61	Otter trawl, Scallop trawl, Shrimp trawl
			2008	1,178	0.56	
	Atlantic Surfclam	Unit	2007	*none presented*		
			2008	*none presented*		

Table 26. Summary of SBRM topics, description of topic elements, and associated recommendations.

Topic	Description	Recommendations
SBRM Methods	Importance Filter can be improved: Unlikely filter can be removed (no longer needed). Pilot coverage Explore, fine tune as needed Discard Estimation Methods for turtles integrate model-based methods.	Importance Filter Omit unlikely filter for all species. Pilot Coverage – incorporate refinements, including use of minimum pilot coverage when all sea days are filtered out in a given fleet. Continue to integrate model-based methods into SBRM, including exploration of an alternative approach to computing monitoring needs for fisheries associated with estimated loggerhead bycatch.
SBRM fleets	Industry activity is dynamic, it is critical that SBRM fleets reflect industry activity	Include new fleets, as appropriate, in SBRM analyses without Council action.
SBRM species groups	Consider the need to include non-federally managed species groups; Sea Turtles (monitoring needs will be informed by loggerhead bycatch models)	Consideration would include the following: identifying the non-federal species under consideration for inclusion into SBRM; evaluating the SBRM stratification relative to the non-federal species; developing prioritization protocols when non-federal species determine the SBRM standard sea day in a fleet and a funding shortage exists.

Table 27. Summary of SBRM products, SBRM Omnibus Amendment requirements, and associated recommendations.

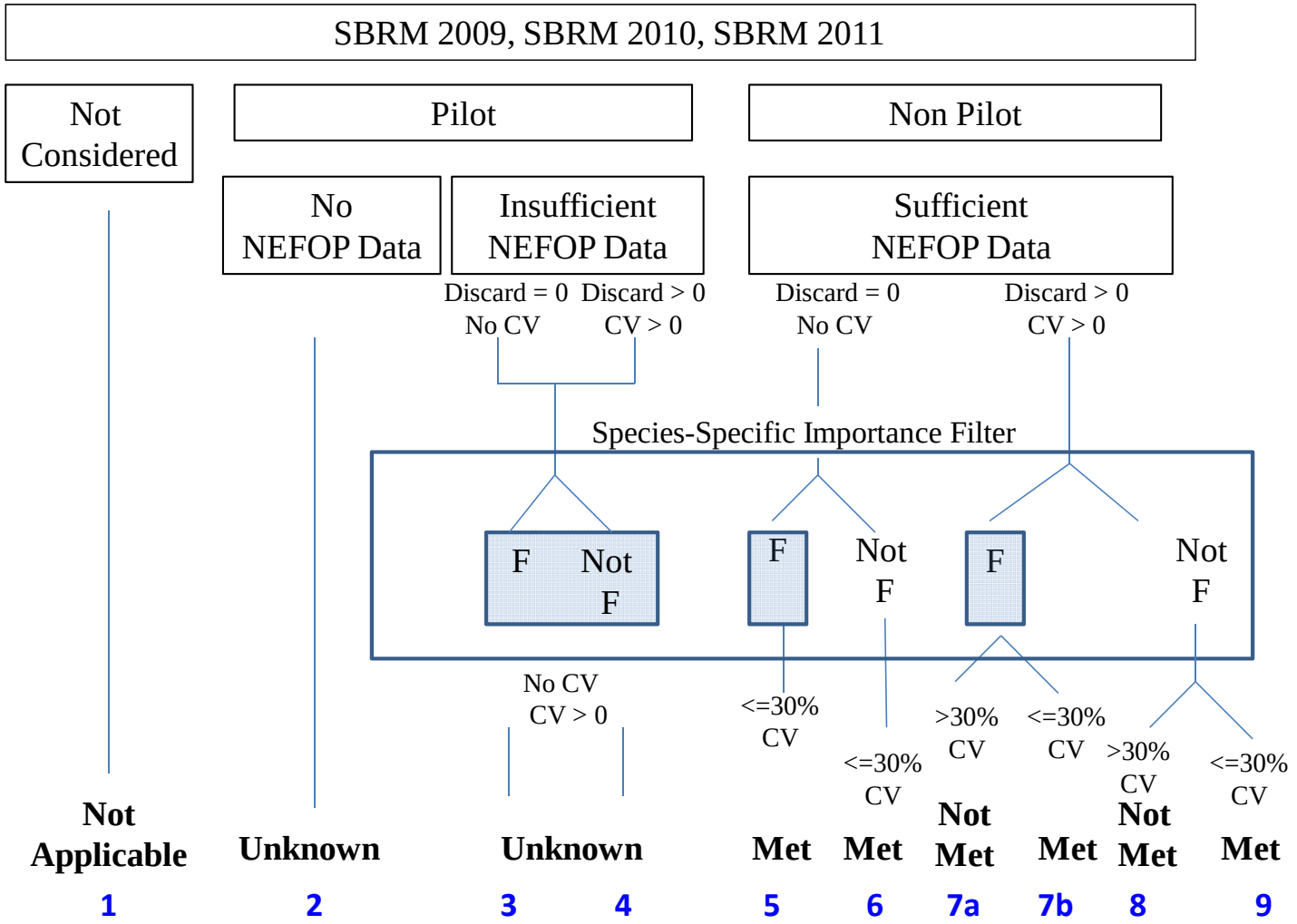
SBRM Products	SBRM Omnibus Amendment Required/Non-required Elements	Recommendations
Annual Discard Report	***Required***:	
	• Observed sea day by area and gear type (Table 1);	• Summarization of observed trips and sea days along with industry activity are useful (similar to Tables 1 and 2 of Sea Day Analysis and Prioritization).
	• Percent of total trips observed by area and gear type (Table 2);	
	• Distribution of sea sampling trips by area and gear (Table 3);	• Consider replacing summary of catch and discards by gear type and quarter with a summary of kept pounds from unobserved quarters and statistical areas.
	• Observed catch and discards by species, gear type and quarter (Table 4);	• The observed discards are not as useful as extrapolated discards. Observed discards may be misleading without appropriate scaling; Consider replacing information in the *Annual Discard Report* with *Annual <u>Estimated</u> Discard Report* (see Table 9A and Figure 6A in Wigley et al. 2011).
	• Observed catch and discards by species gear type and area (Table 5)	• An annual report is appropriate time unit (current information is more useful). In the future, lag time *could* be reduced when electronic data collection systems are in place.
		• Region (based on port of departure) versus area fished – ACLs information needs area fished not region. Consider redefining the scope of SBRM.
	Non-required:	
	• Percentage of discards by discard reasons (Appendix Tables 1.a and 1.b)	• Discard reasons – difficult to know which FMP led to discards; Consider broadly classifying discarding into two categories: economic or regulatory.

Table 27, continued. Summary of SBRM products, SBRM Omnibus Amendment requirements, and associated recommendations.

SBRM Products	SBRM Omnibus Amendment Required/Non-required Elements	Recommendations
Sea Day Analysis and Prioritization	***Required***: Table 5 elements: • At-sea observer coverage levels required to attain the SBRM performance standard; • Coverage levels that would be available if the resource shortfall were allocated proportionally; • Coverage levels that incorporate the recommended prioritization; • Rationale for the recommended prioritization; **Non-required**: • Number of trips (NEFOP and VTR) by fleet and quarter (Table 2); • Number of sea days (NEFOP and VTR) by fleet and quarter (Table 3); • Number of sea days needed to attain the SBRM performance standard by fleet and species group (Table 4); • Coverage levels that would be available if the resource shortfall were allocated proportionally **within funding constraints** *(included in Table 5);* • Expected achieved CV based on prioritized sea days (Table 6).	• Keep existing tables; • Include information associated with the prioritization process used. • Table 2 and 3 are useful to document activity (NEFOP and industry) • Table 4 and 6 are useful for prioritization process; provide information to support prioritization choices; • Consider including additional information on the relationship of sample size and precision

Table 27, continued. Summary of SBRM products, SBRM Omnibus Amendment requirements, and associated recommendations.

SBRM Products	SBRM Omnibus Amendment Required/Non-required Elements	Recommendations
3-year Review Report	***Required:*** • Review of observer coverage level; • Review of observed encounters and summary of observed discards; • Review of CV of discards; • Estimate discards; • Evaluate effectiveness of SBRM; • Describe methods, if changed; • Update assessment of potential sources of bias and analyses of accuracy; • Evaluations of implication for management for any cases where SBRM performance standard was not meet.	• Requirements of report are too massive • Providing estimated discards are more useful on an annual basis than every three years.



SBRM Performance Classification Boxes presented in Table 2.

Figure 1. SBRM performance classifications ["Not Applicable", "Unknown", "Not Met", and "Met"] and the associated characteristics of the SBRM fleets and species groups (cells) for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). "F" represents the cells that were filtered out through the importance filter; "Not F" represents cells that were not filtered out through the importance filter. The shaded boxes indicate cells that were not used in the annual sample size analysis due to pilot coverage or the importance filter (filtered out). NEFOP = Northeast Fisheries Observer Program; CV = coefficient of variation.

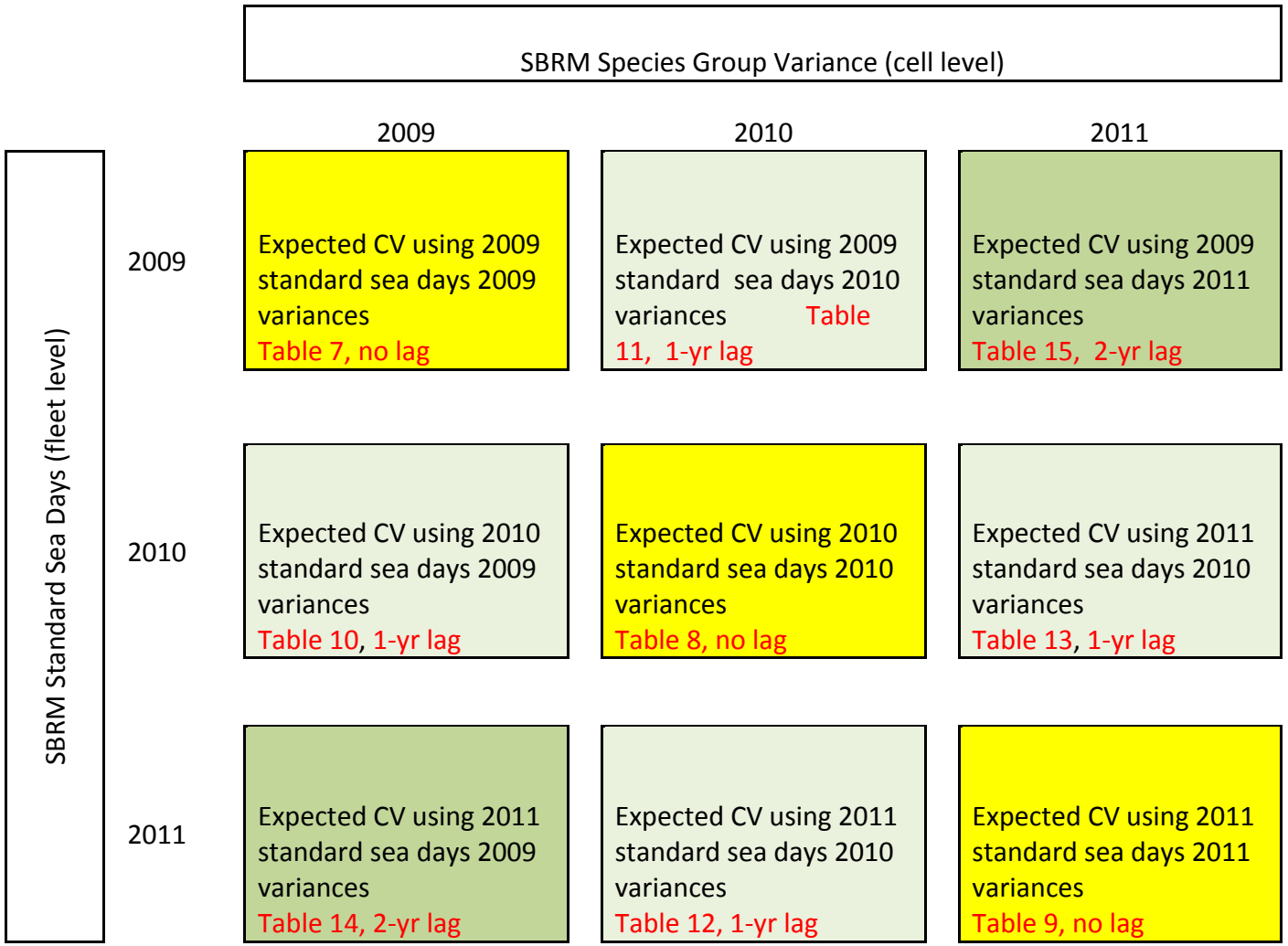


Figure 2. Schematic of the expected coefficient of variations (CVs) analyses conducted using SBRM 2009, 2010, and 2011. Boxes shaded in yellow represent analyses where the SBRM standard sea days and the species group variances are associated with one SBRM analysis (no lag is data used); boxes shaded in light-green represent analyses where the SBRM standard sea days and species group variances are associates with two SBRMs, separated by one year (1-yr lag); boxes shaded in dark-green represent analyses where the SBRM standard sea days and species group variance are associates with two SBRMs, separated by two years (2-yr lag). The table containing the results of the expected CV analysis is also given.

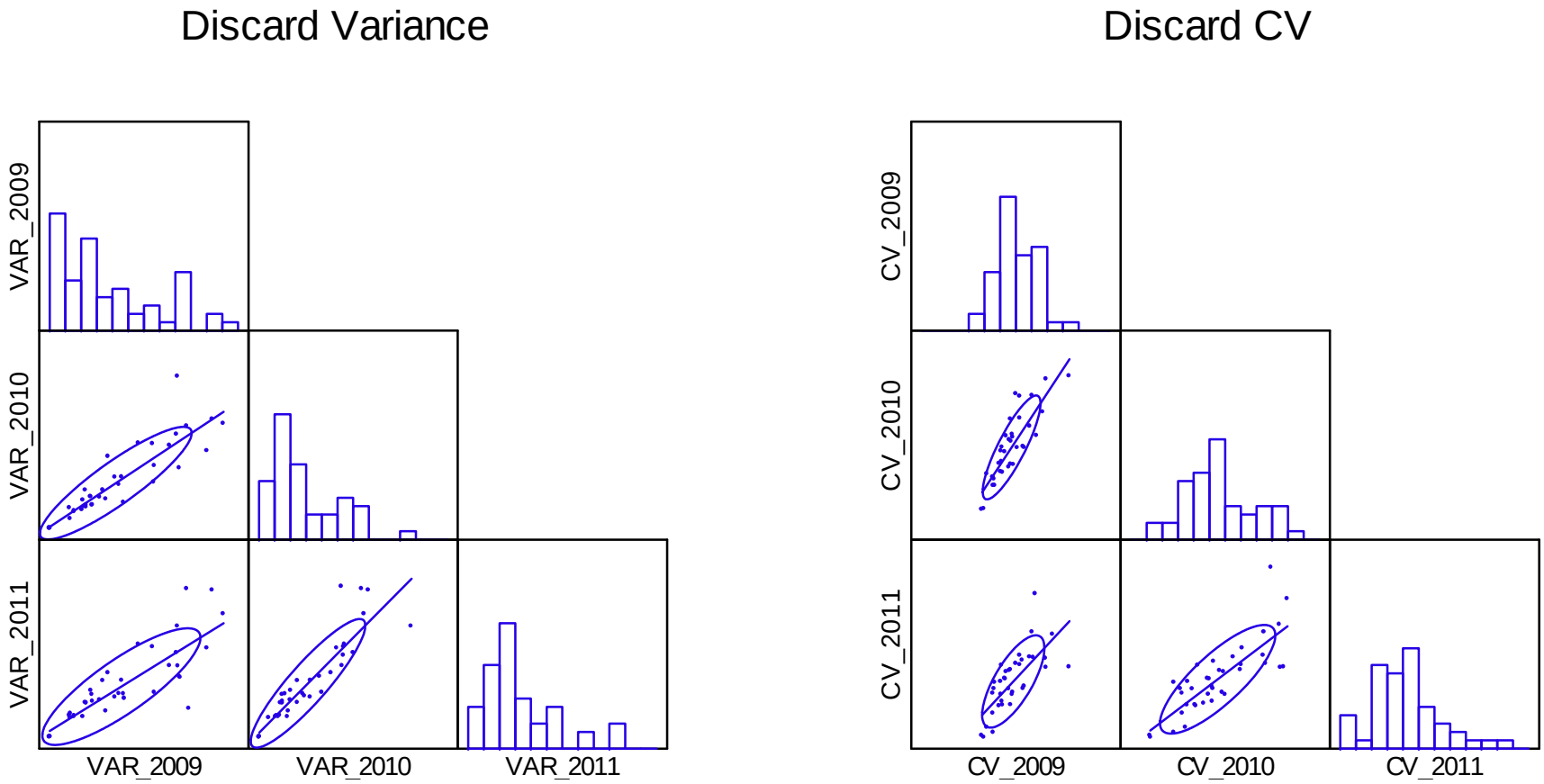


Figure 3. Comparisons of the discard variance and comparisons of the coefficient of variance of discards by SBRM year for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). Each dot represents an individual fleet and species groups for fleets and species groups (cells) used in the sample size analysis (Boxes 6, 8, 9; Figure 1). A fourth root transformation was used; regression line with 68% confidence internal is shown.

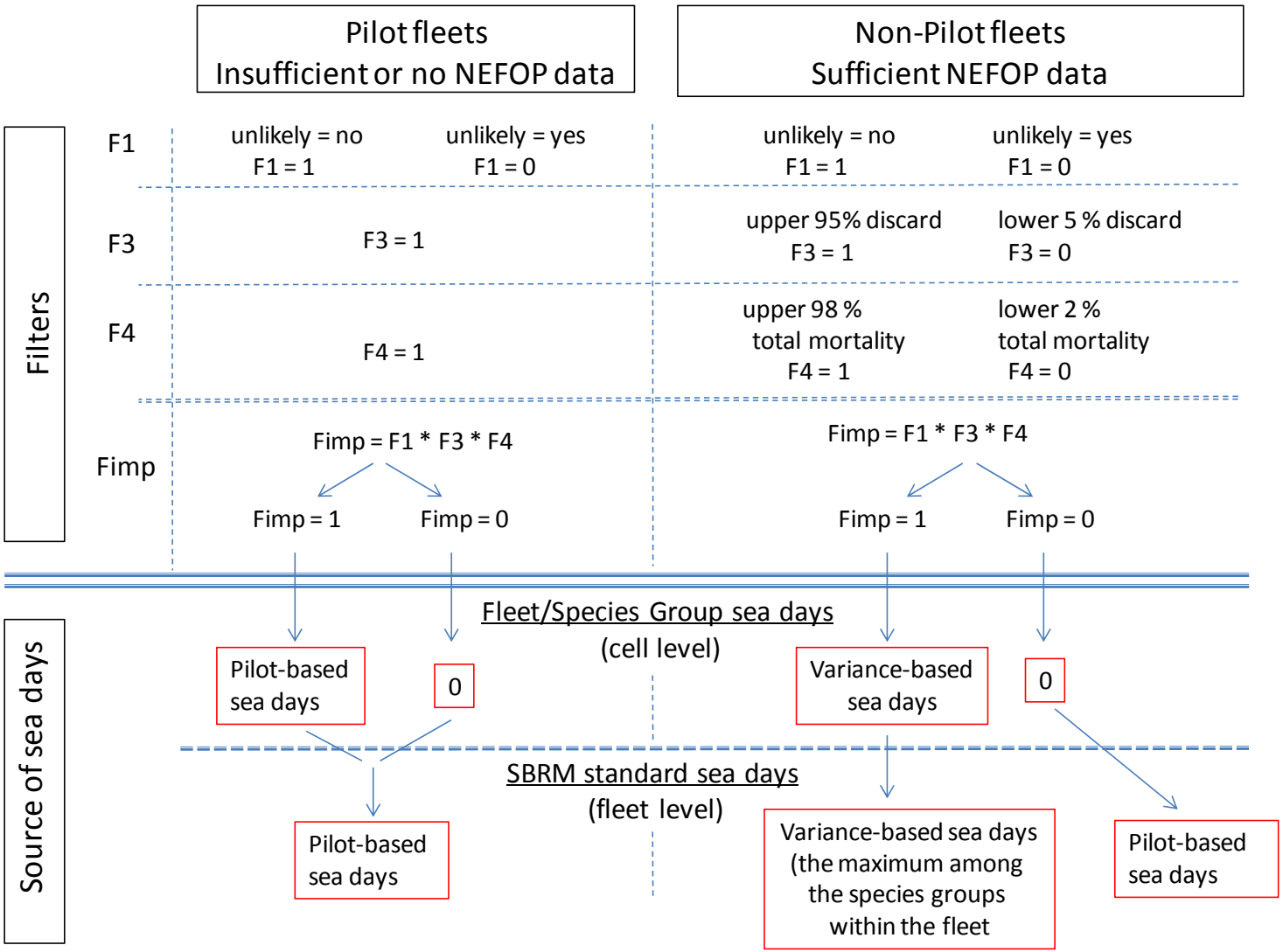
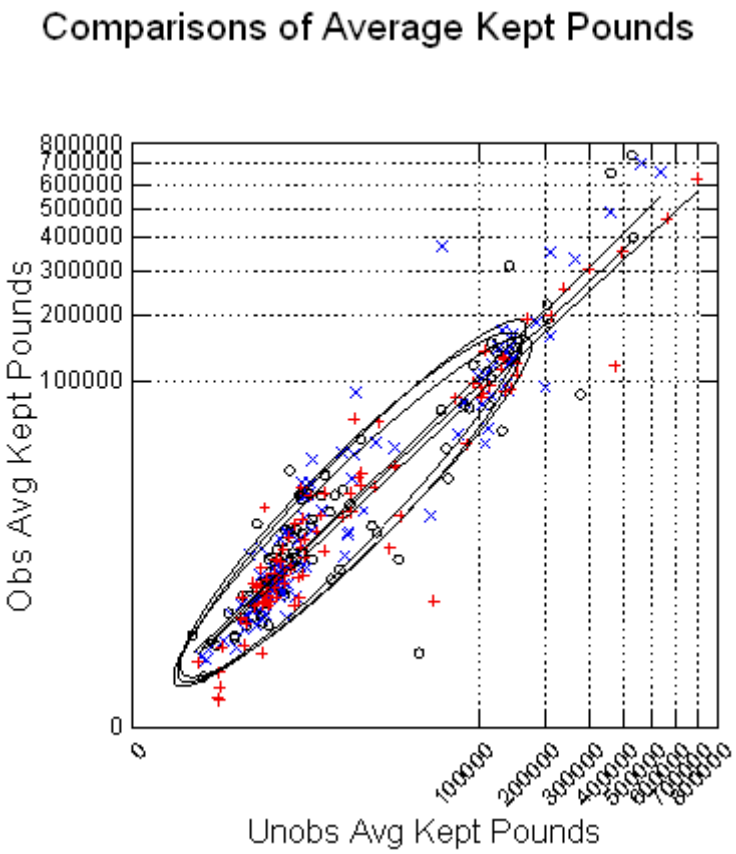


Figure 4. Diagram depicting the SBRM filters [unlikely filter (F1), fraction of discard filter (F3), fraction of total mortality filter (F4), and importance filter (Fimp)] and the resultant source (variance-based, pilot-based, or zero) of sea days by fleet type (pilot and non-pilot fleets) for fleet and species groups (cell level) and the SBRM standard sea days (fleet-level). NEFOP = Northeast Fisheries Observer Program.

All Species



Bluefish

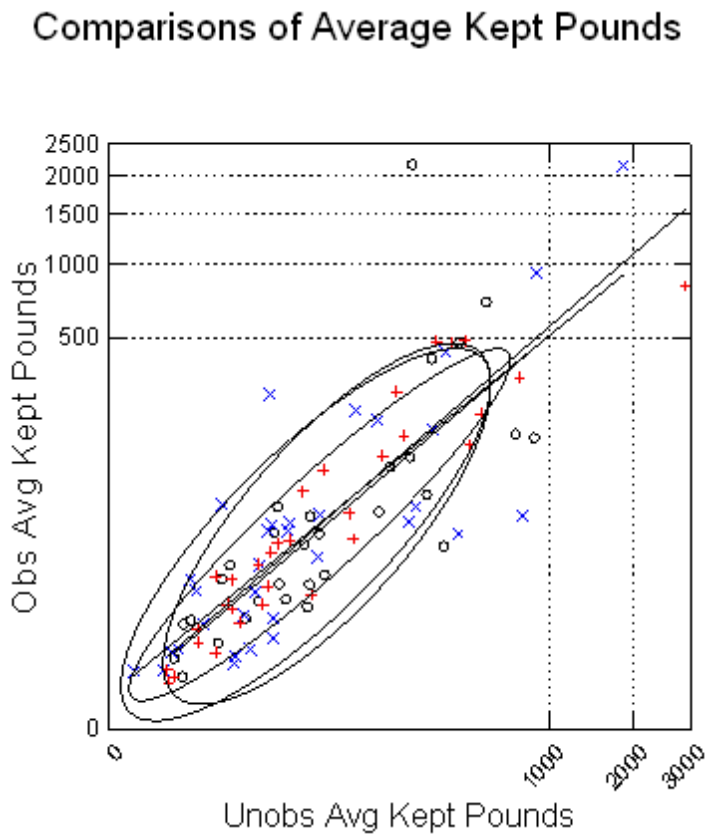
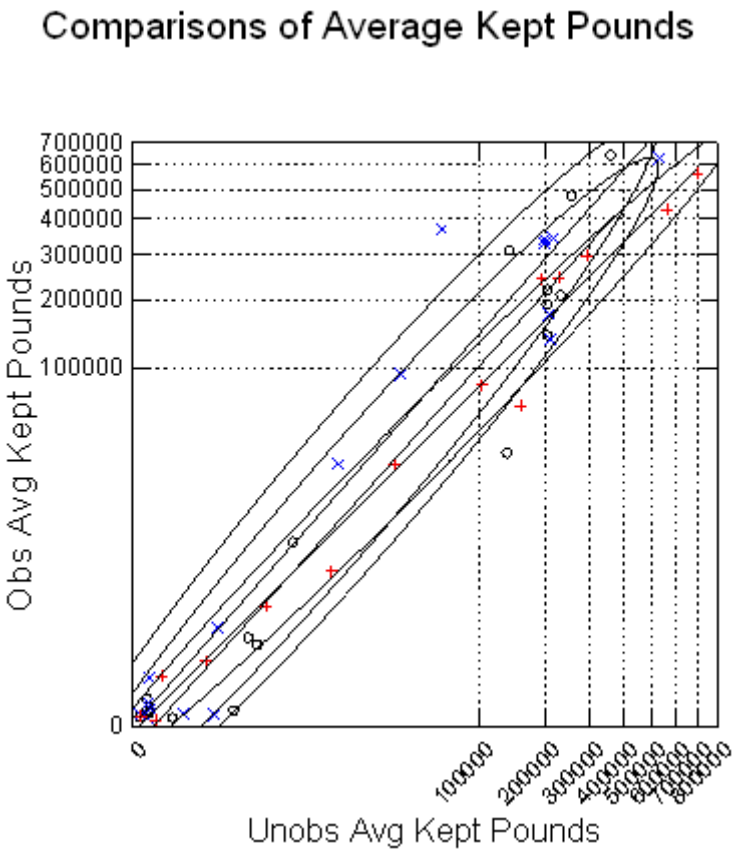


Figure 5. Comparison of average kept pounds (four root transformation used), for unobserved and observed trips for SBRM 2009 (July 2007 through June 2008; black circle), SBRM 2010 (July 2008 through June 2009; red +), and SBRM 2011 (July 2009 through June 2010; blue x), by SBRM species group. Each symbol represents the mean of an individual stratum (SBRM year, fleet and calendar quarter). Ellipse represents 68% confidence internal for each year.

Atlantic Herring



Red Crab

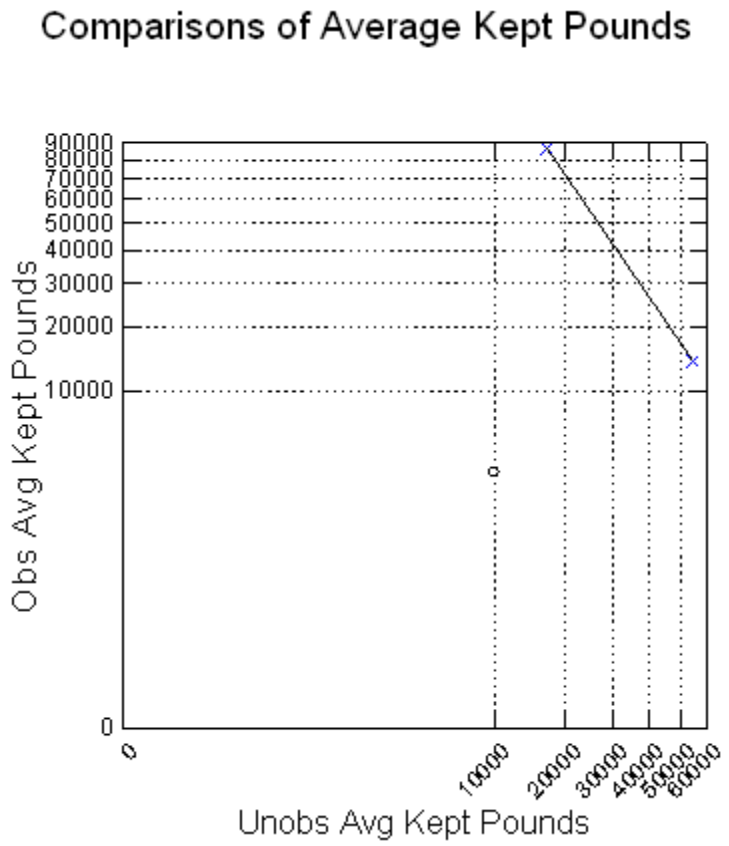
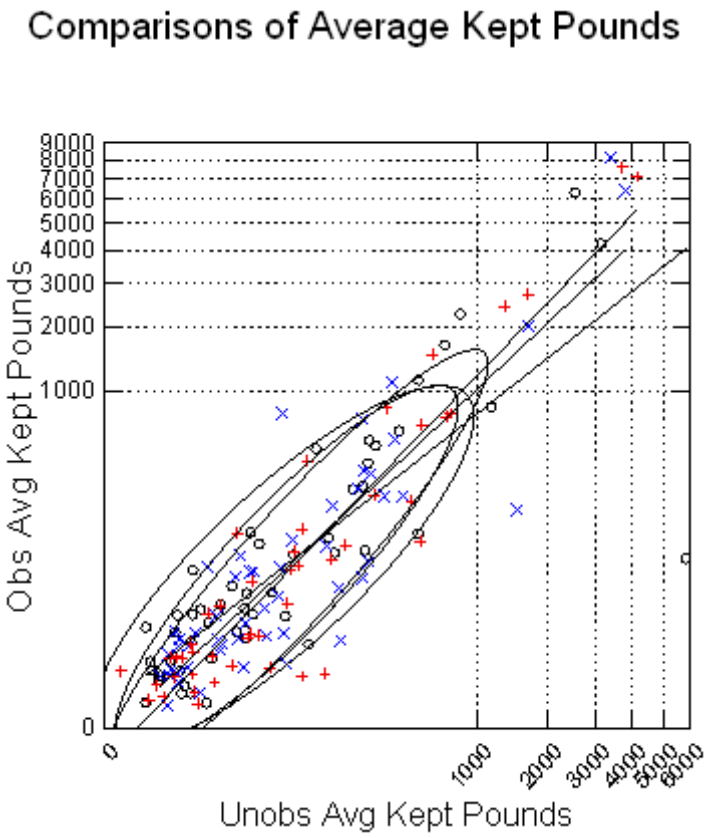


Figure 5, continued. Comparison of average kept pounds (four root transformation used), for unobserved and observed trips for SBRM 2009 (July 2007 through June 2008; black circle), SBRM 2010 (July 2008 through June 2009; red +), and SBRM 2011 (July 2009 through June 2010; blue x), by SBRM species group. Each symbol represents the mean of an individual stratum (SBRM year, fleet and calendar quarter). Ellipse represents 68% confidence internal for each year.

Fluke - Scup – Black Sea Bass



Large Mesh Groundfish

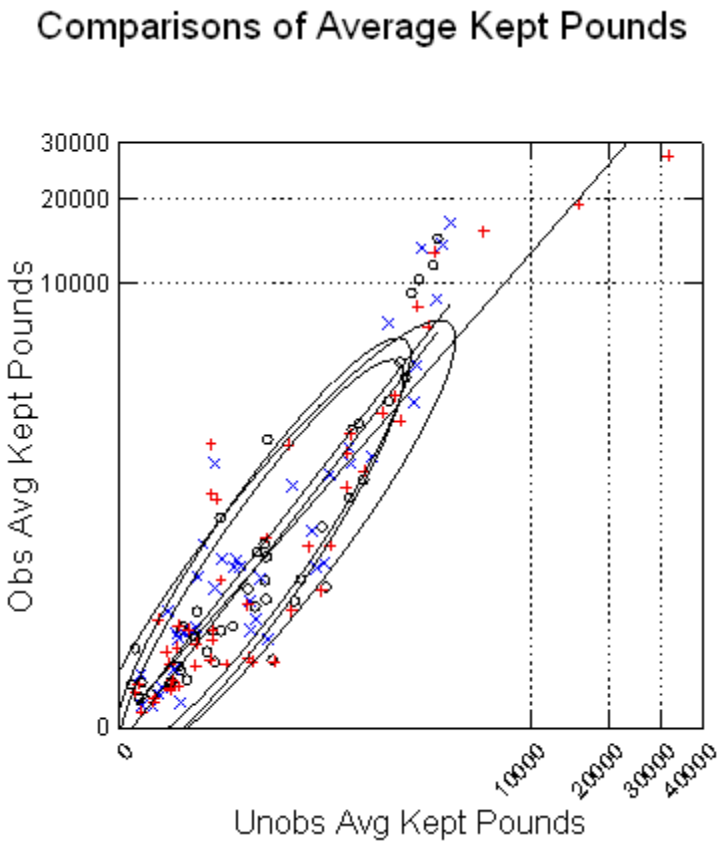
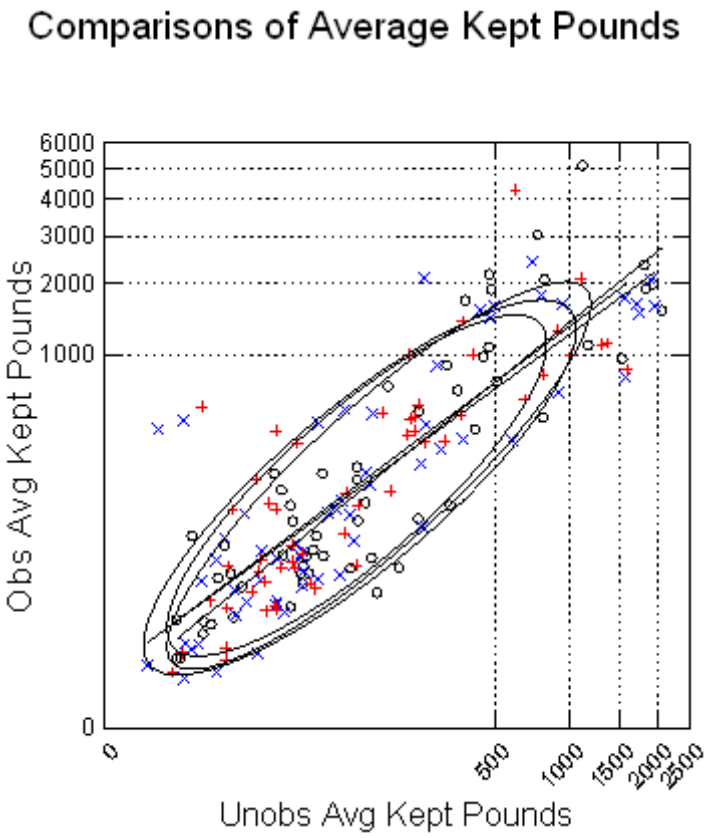


Figure 5, continued. Comparison of average kept pounds (four root transformation used), for unobserved and observed trips for SBRM 2009 (July 2007 through June 2008; black circle), SBRM 2010 (July 2008 through June 2009; red +), and SBRM 2011 (July 2009 through June 2010; blue x), by SBRM species group. Each symbol represents the mean of an individual stratum (SBRM year, fleet and calendar quarter). Ellipse represents 68% confidence internal for each year.

Monkfish



Sea Scallops

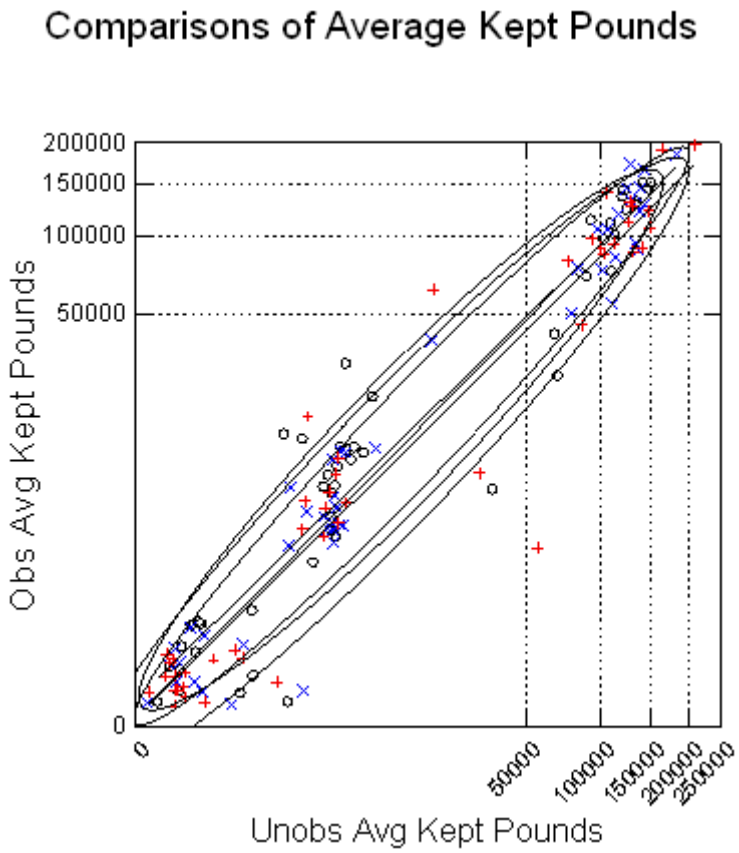
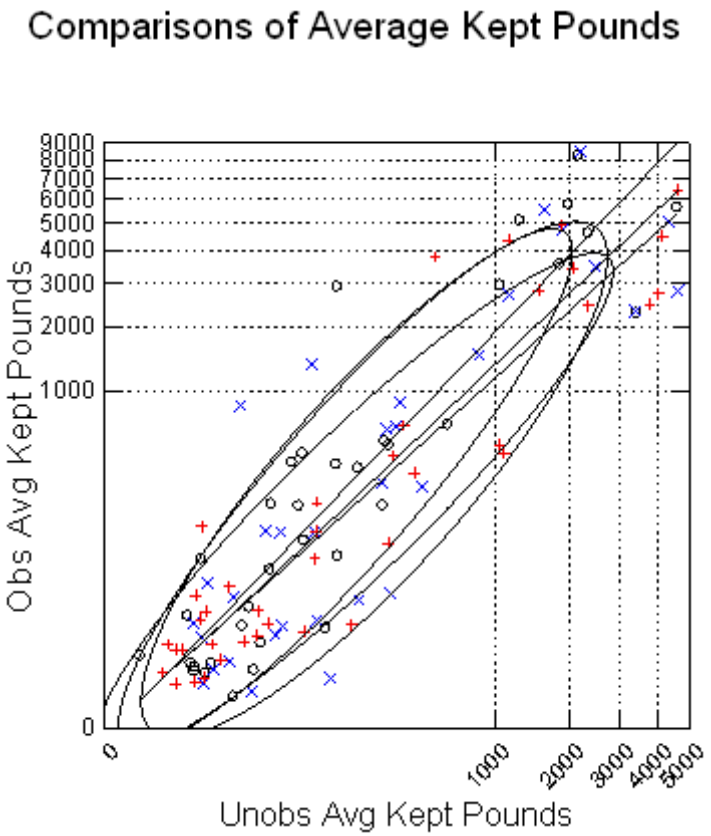


Figure 5, continued. Comparison of average kept pounds (four root transformation used), for unobserved and observed trips for SBRM 2009 (July 2007 through June 2008; black circle), SBRM 2010 (July 2008 through June 2009; red +), and SBRM 2011 (July 2009 through June 2010; blue x), by SBRM species group. Each symbol represents the mean of an individual stratum (SBRM year, fleet and calendar quarter). Ellipse represents 68% confidence internal for each year.

Skate Complex



Small Mesh Groundfish

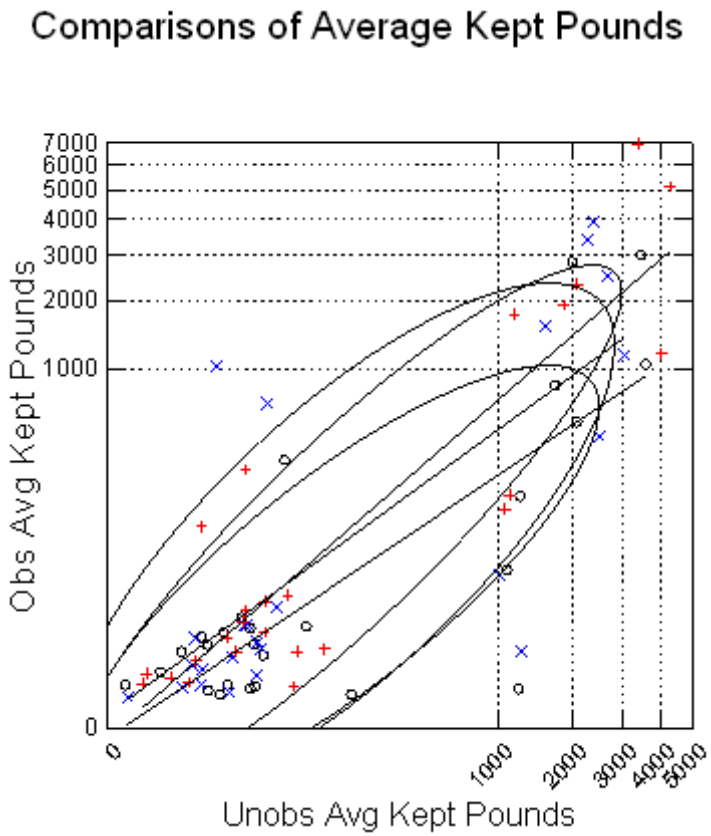
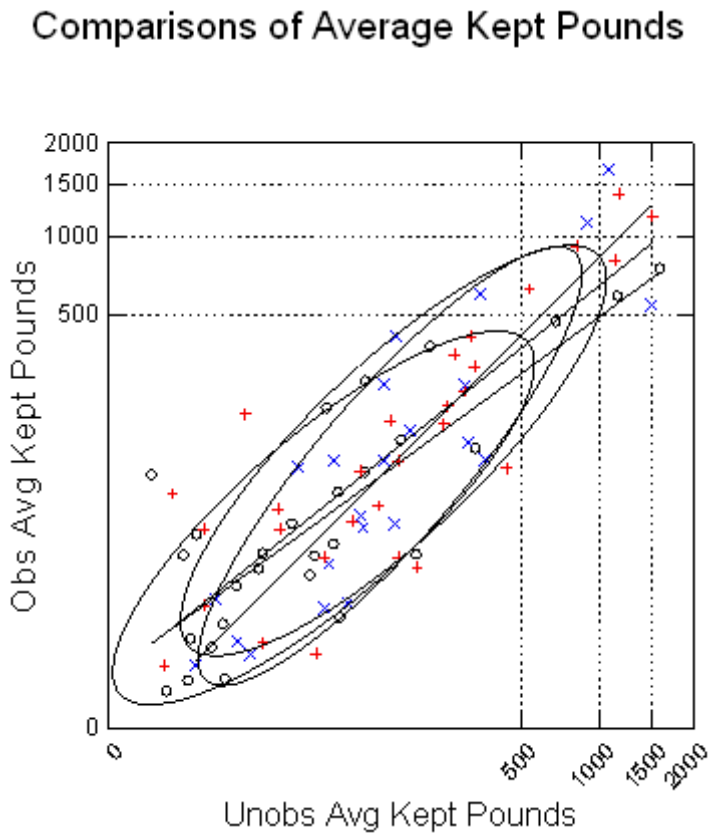


Figure 5, continued. Comparison of average kept pounds (four root transformation used), for unobserved and observed trips for SBRM 2009 (July 2007 through June 2008; black circle), SBRM 2010 (July 2008 through June 2009; red +), and SBRM 2011 (July 2009 through June 2010; blue x), by SBRM species group. Each symbol represents the mean of an individual stratum (SBRM year, fleet and calendar quarter). Ellipse represents 68% confidence internal for each year.

Spiny Dogfish

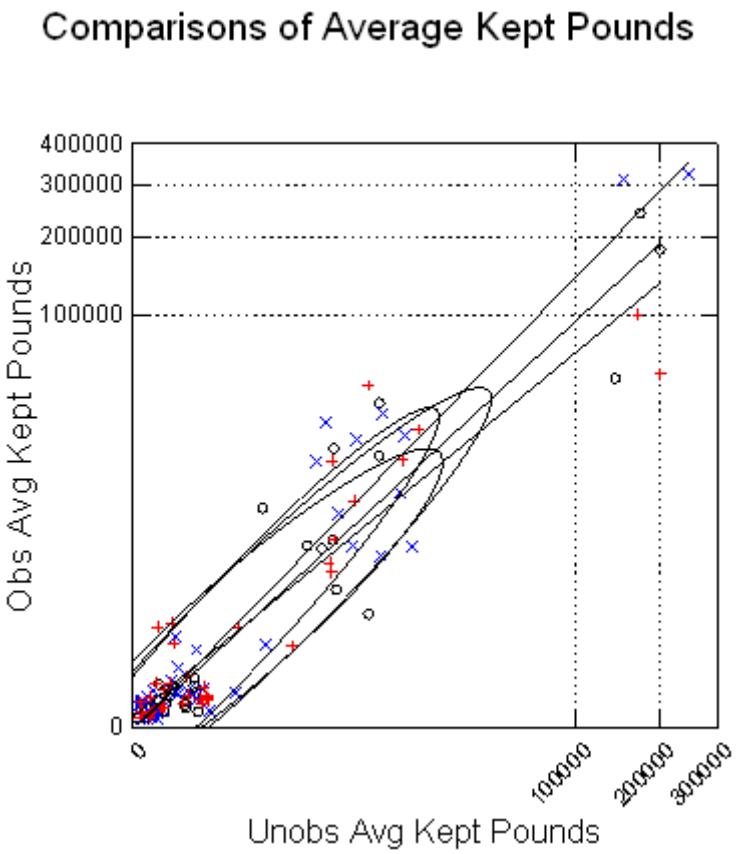


Surf Calms – Ocean Quahogs

No graph available

Figure 5, continued. Comparison of average kept pounds (four root transformation used), for unobserved and observed trips for SBRM 2009 (July 2007 through June 2008; black circle), SBRM 2010 (July 2008 through June 2009; red +), and SBRM 2011 (July 2009 through June 2010; blue x), by SBRM species group. Each symbol represents the mean of an individual stratum (SBRM year, fleet and calendar quarter). Ellipse represents 68% confidence internal for each year.

Squid-Butterfish-Mackerel



Tilefish

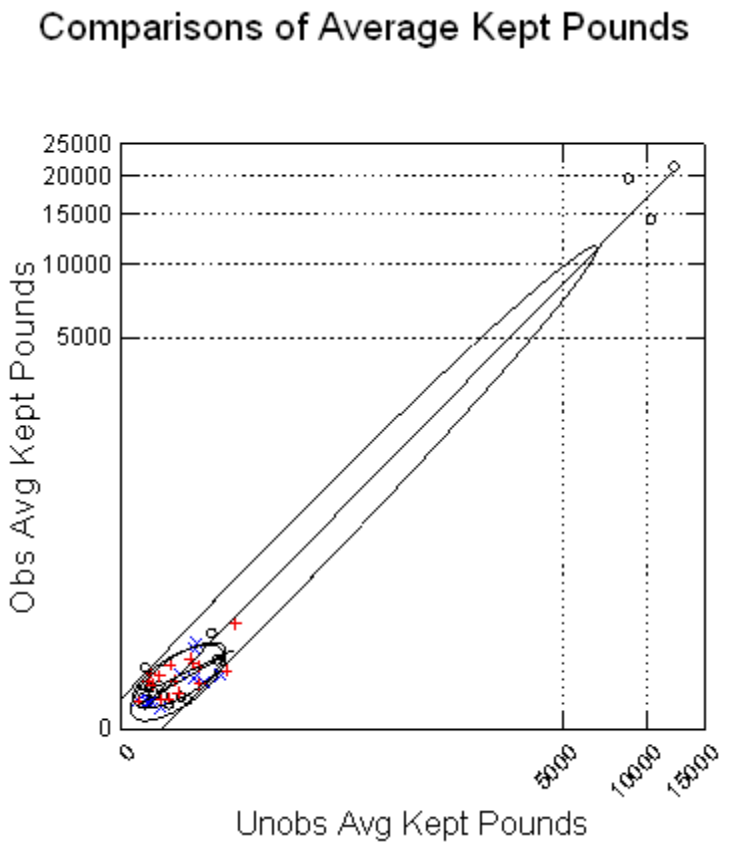
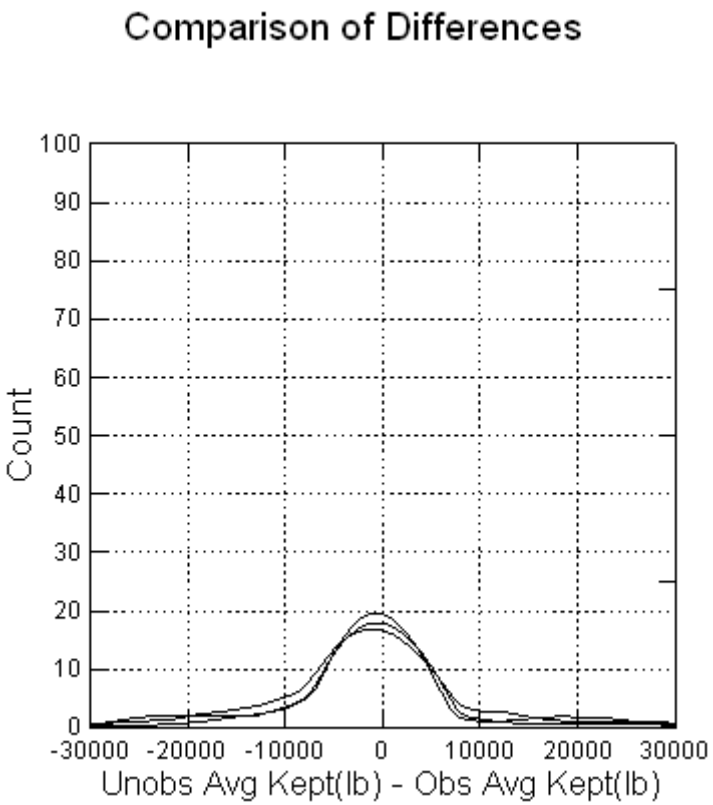


Figure 5, continued. Comparison of average kept pounds (four root transformation used), for unobserved and observed trips for SBRM 2009 (July 2007 through June 2008; black circle), SBRM 2010 (July 2008 through June 2009; red +), and SBRM 2011 (July 2009 through June 2010; blue x), by SBRM species group. Each symbol represents the mean of an individual stratum (SBRM year, fleet and calendar quarter). Ellipse represents 68% confidence internal for each year.

All species



Bluefish

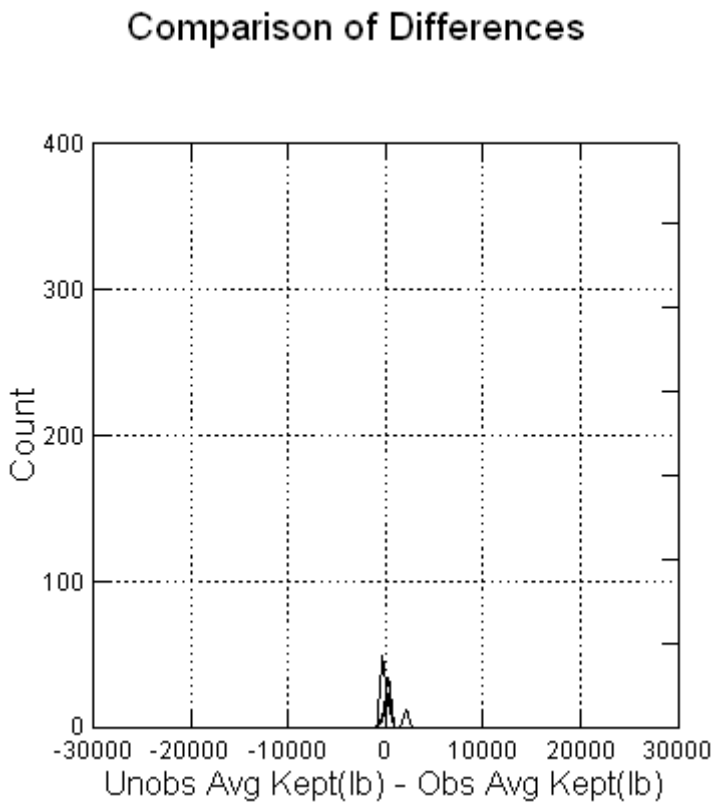
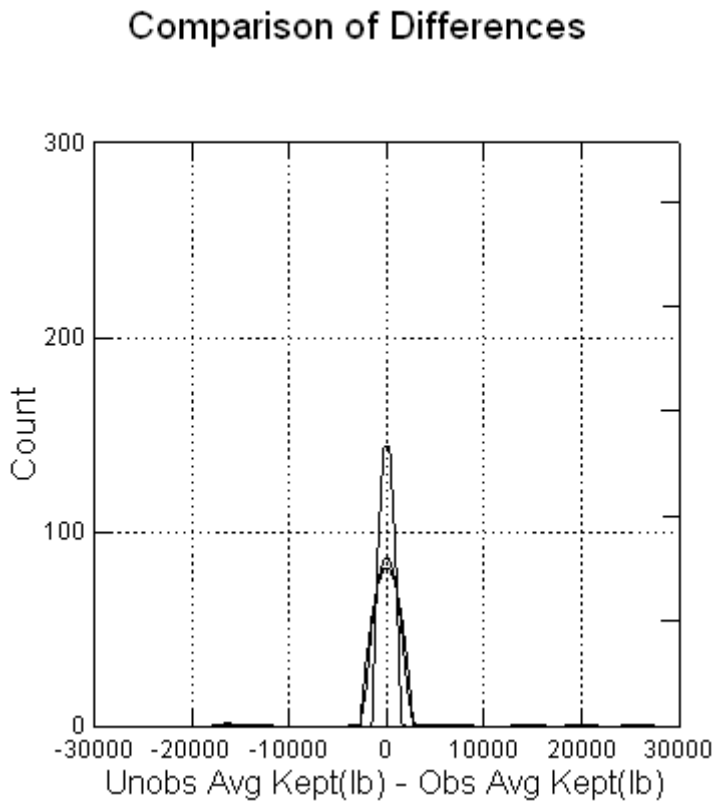


Figure 6. The distribution of differences in the average kept pounds of unobserved and observed trips for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010), by SBRM species group.

Atlantic Herring



Red Crab

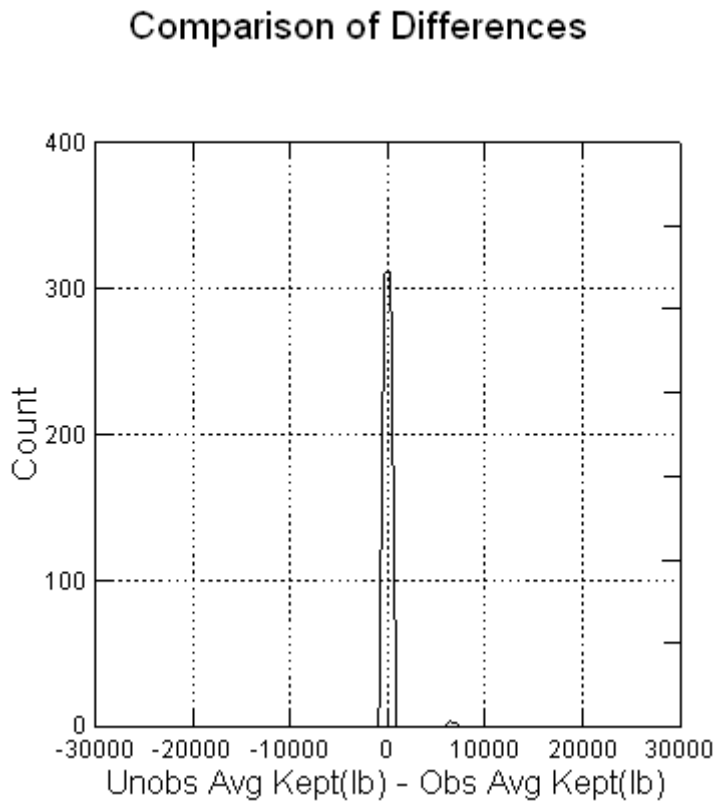
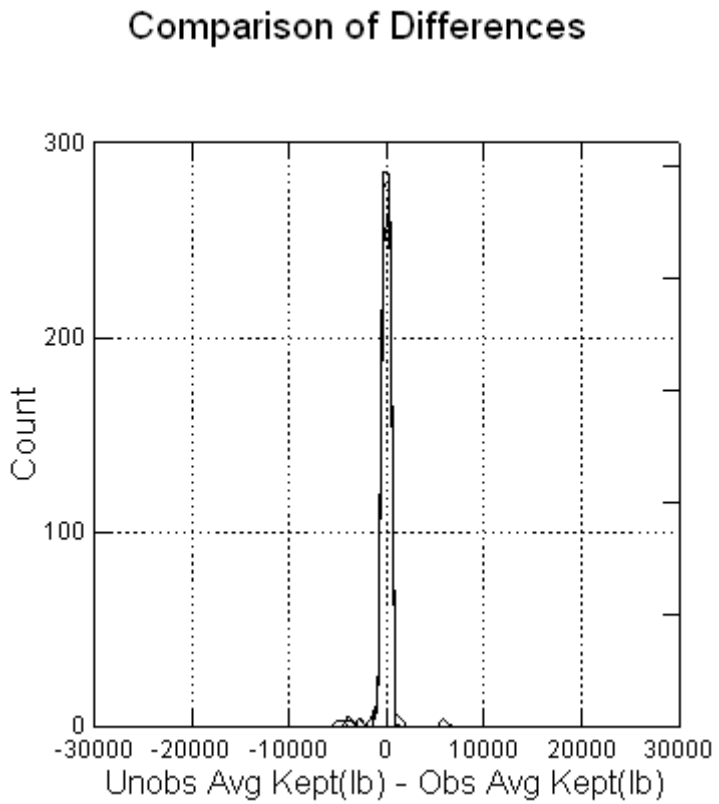


Figure 6, continued. The distribution of differences in the average kept pounds of unobserved and observed trips for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010), by SBRM species group.

Fluke-Scup-Black Sea Bass



Large Mesh Groundfish

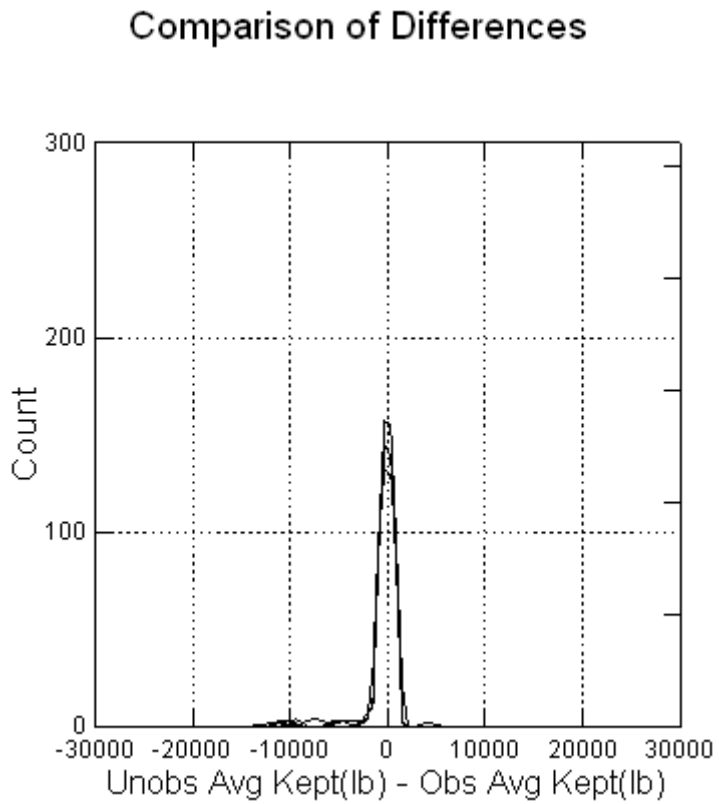
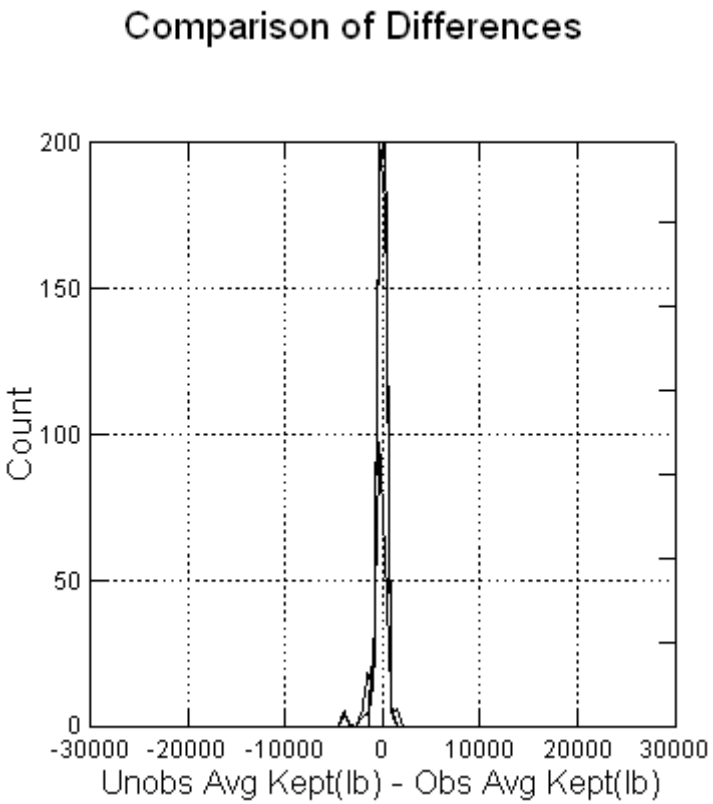


Figure 6, continued. The distribution of differences in the average kept pounds of unobserved and observed trips for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010), by SBRM species group.

Monkfish



Sea Scallops

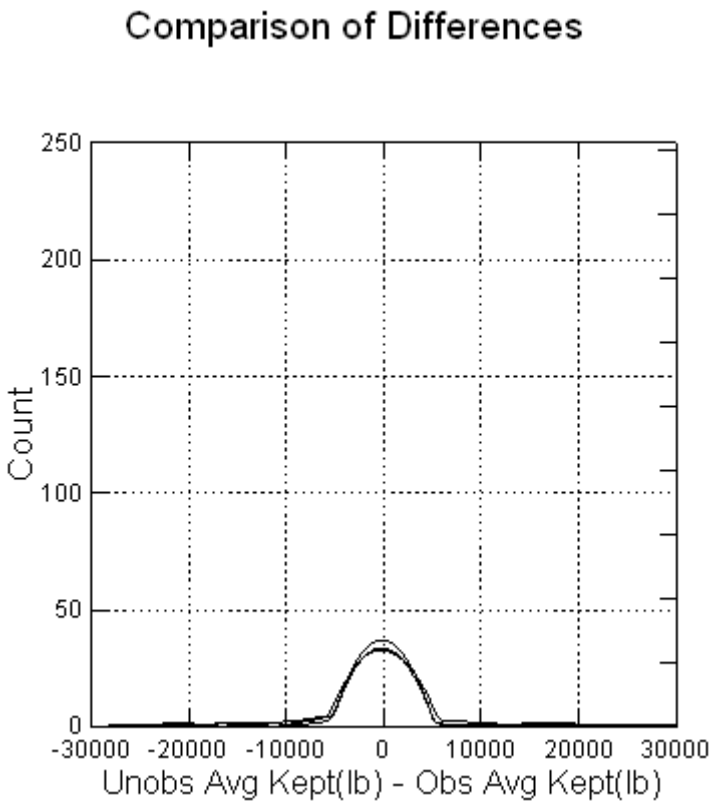
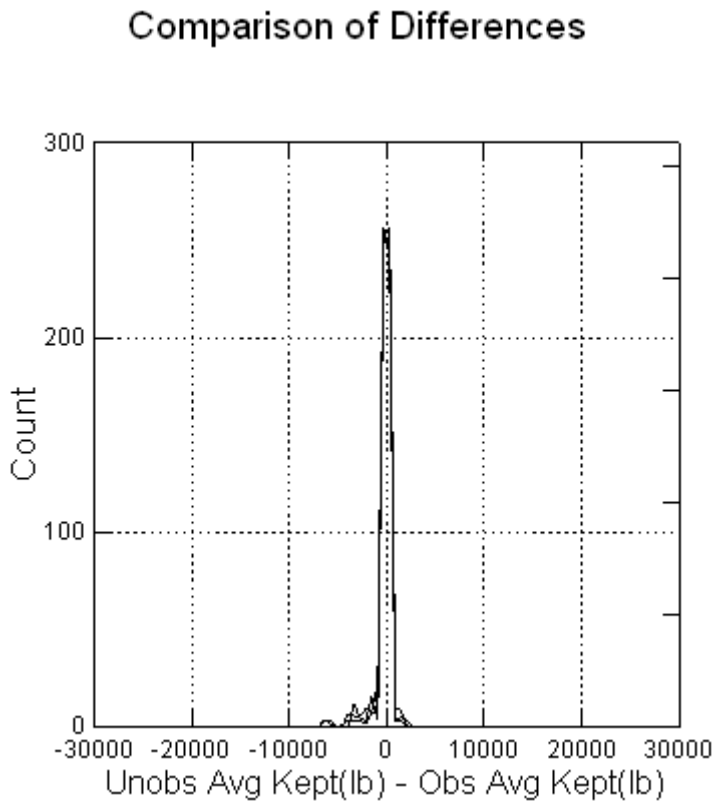


Figure 6, continued. The distribution of differences in the average kept pounds of unobserved and observed trips for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010), by SBRM species group.

Skate Complex



Small Mesh Groundfish

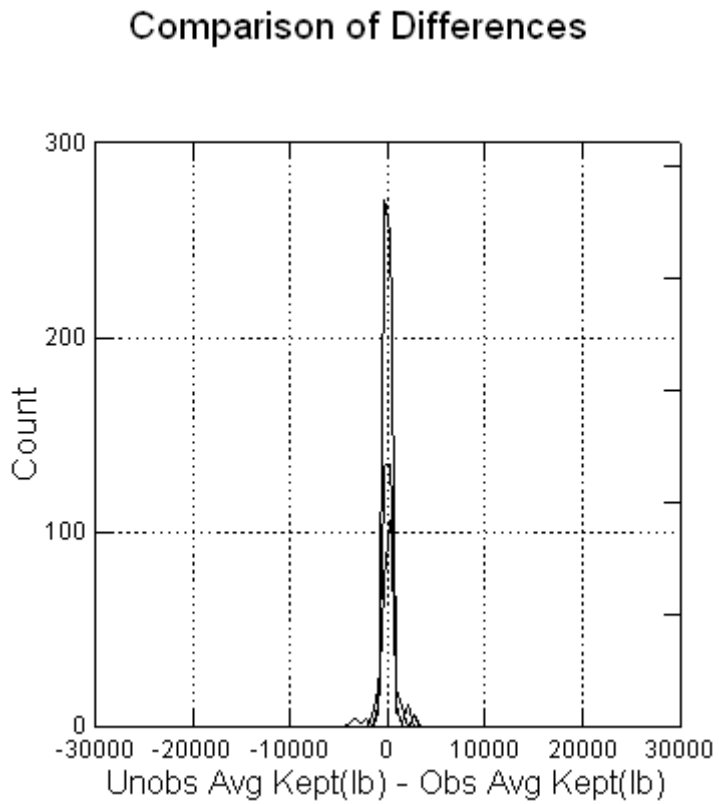
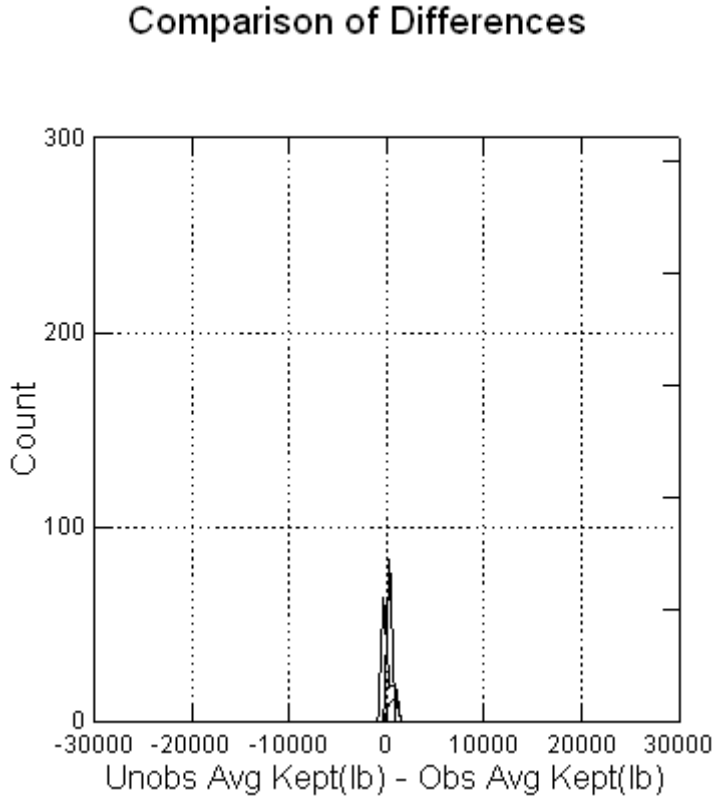


Figure 6, continued. The distribution of differences in the average kept pounds of unobserved and observed trips for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010), by SBRM species group.

Spiny Dogfish

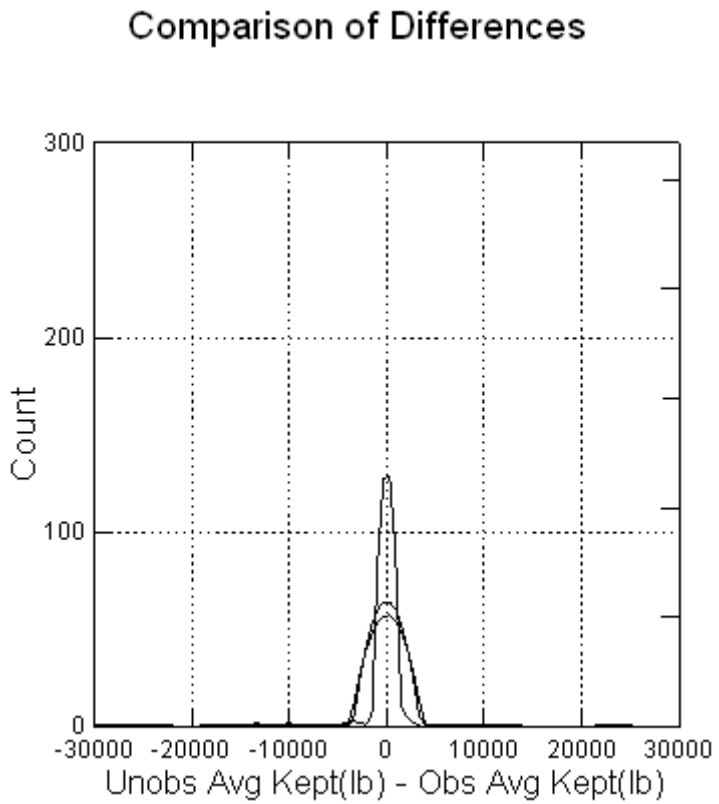


Surfclam and Ocean Quahog

No graph available

Figure 6, continued. The distribution of differences in the average kept pounds of unobserved and observed trips for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010), by SBRM species group.

Squid-Butterfish-Mackerel



Tilefish

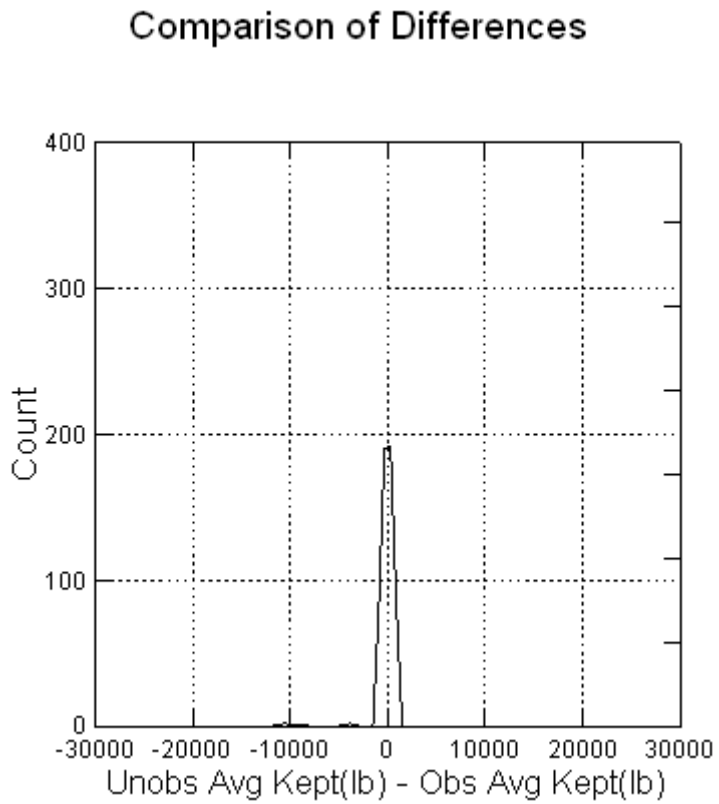
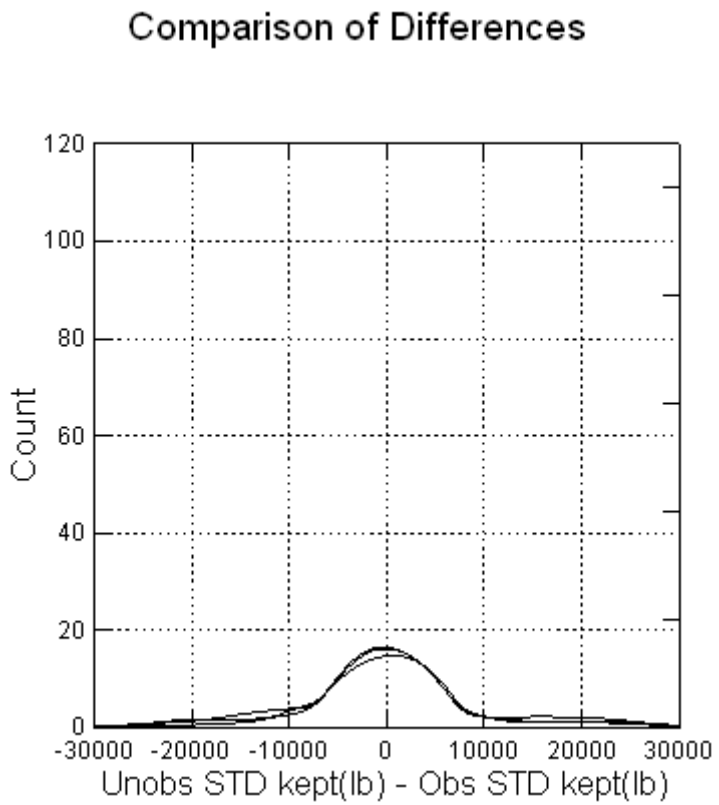


Figure 6, continued. The distribution of differences in the average kept pounds of unobserved and observed trips for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010), by SBRM species group.

All Species



Bluefish

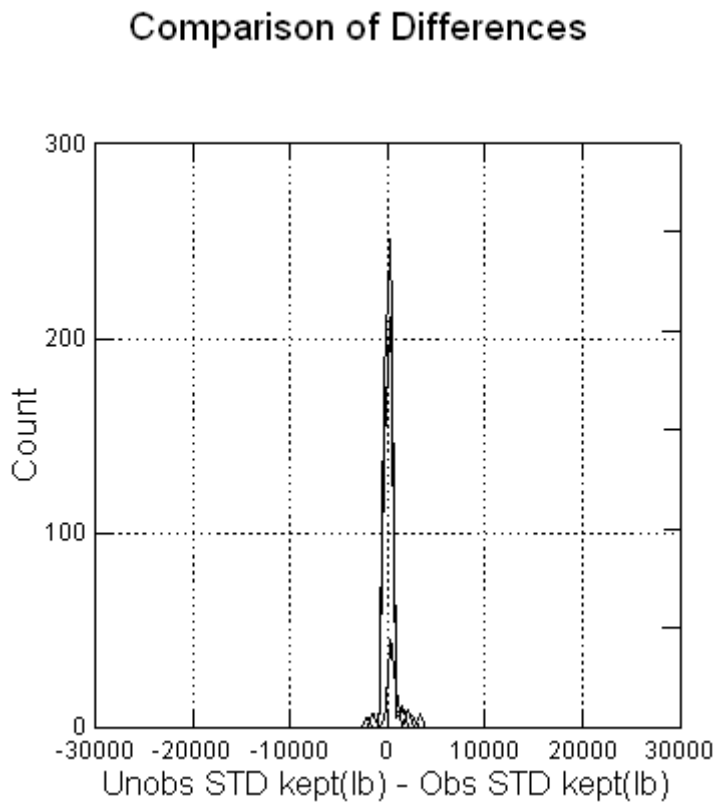
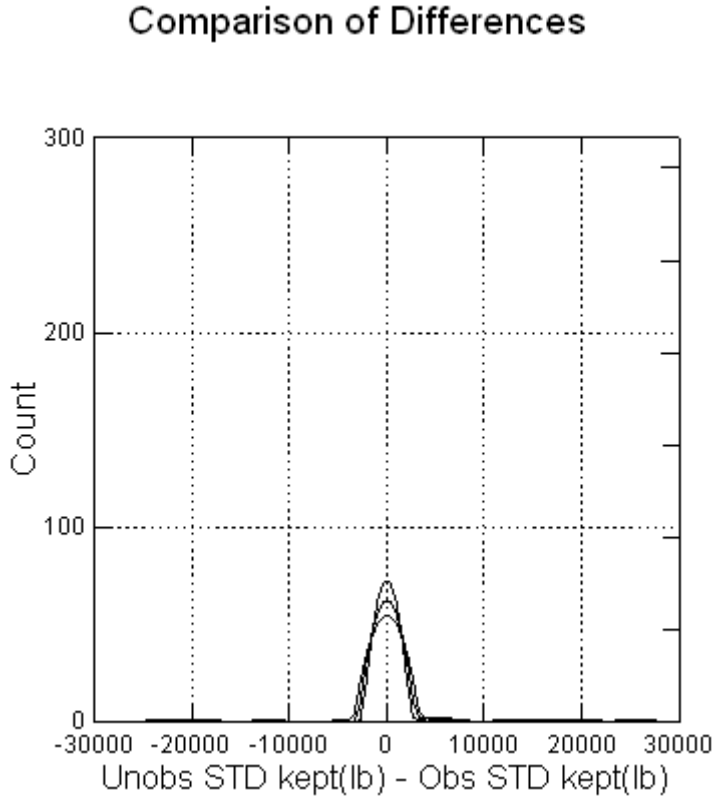


Figure 7. The distribution of differences between the standard deviation of the average kept pounds of unobserved and observed trips for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010), by SBRM species group.

Atlantic Herring

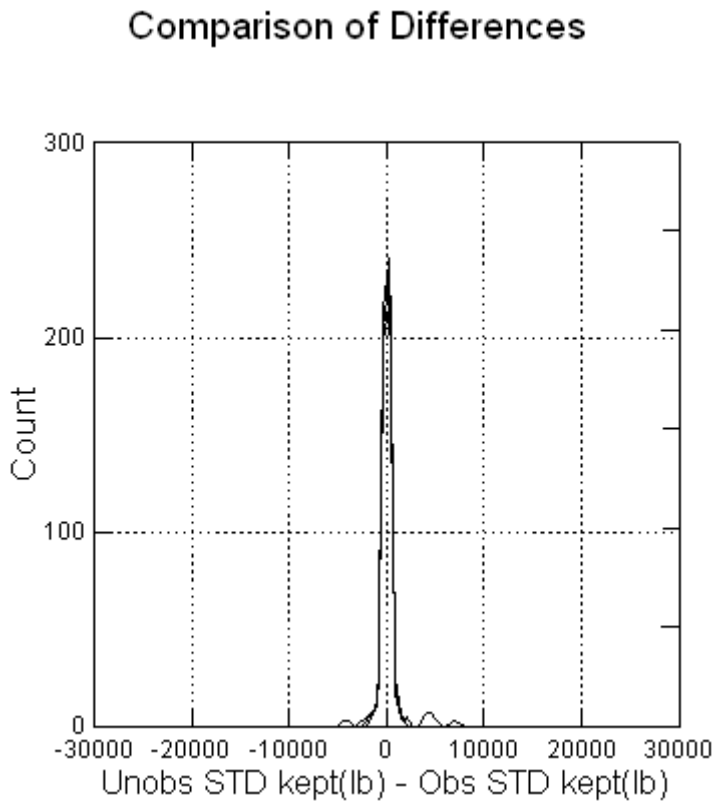


Red Crab

No graph available

Figure 7, continued. The distribution of differences between the standard deviation of the average kept pounds of unobserved and observed trips for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010), by SBRM species group.

Fluke-Scup-Black Sea Bass



Large Mesh Groundfish

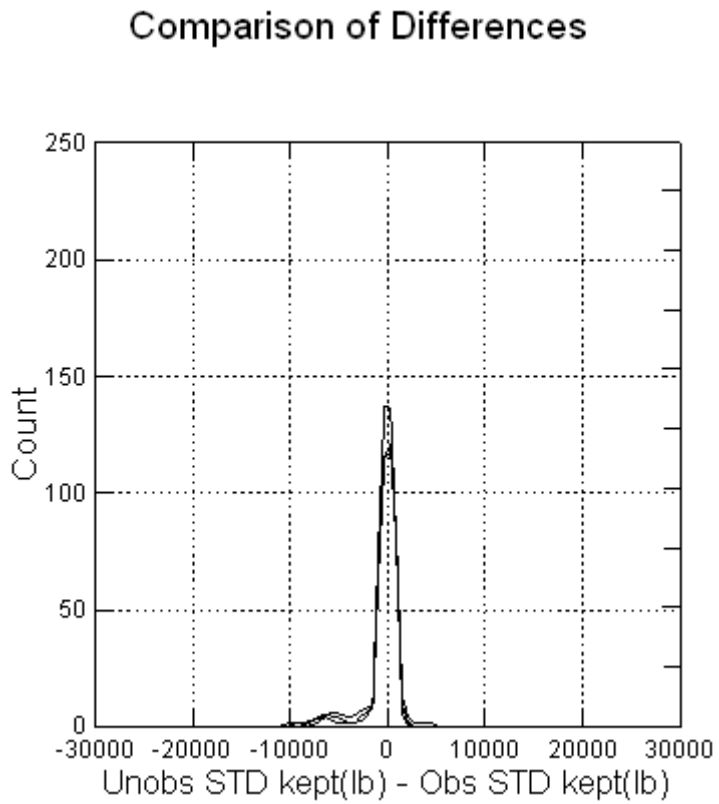
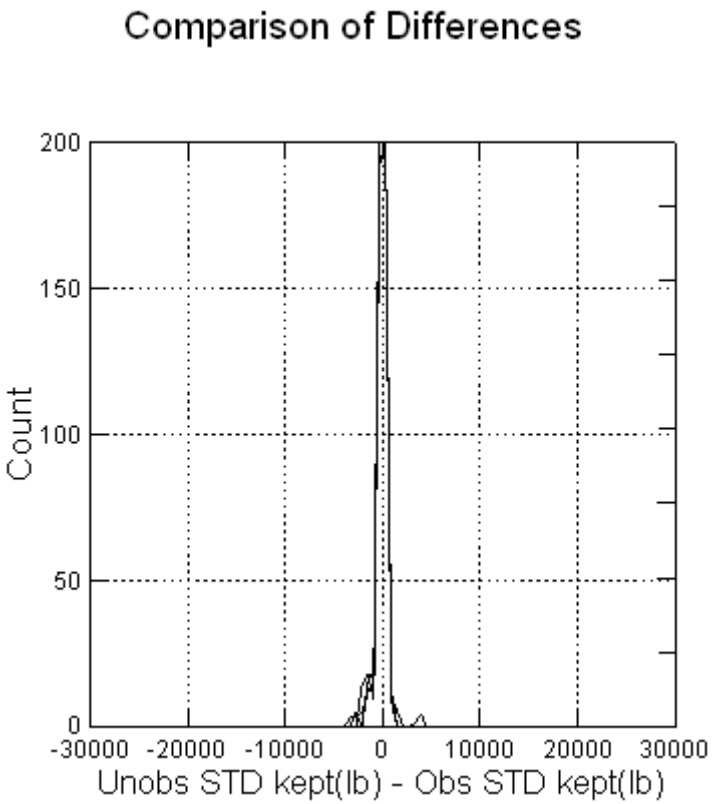


Figure 7, continued. The distribution of differences between the standard deviation of the average kept pounds of unobserved and observed trips for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010), by SBRM species group.

Monkfish



Sea Scallop

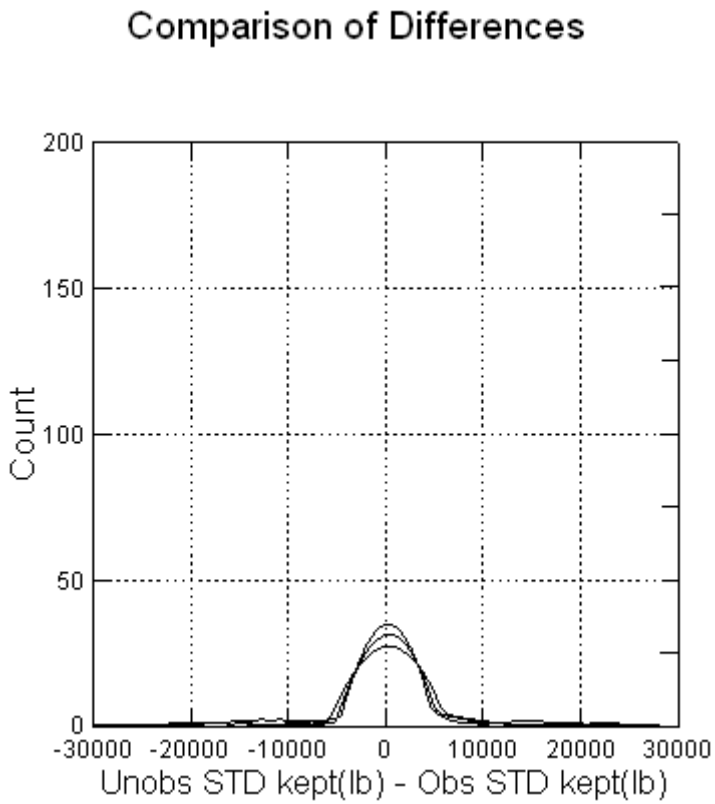
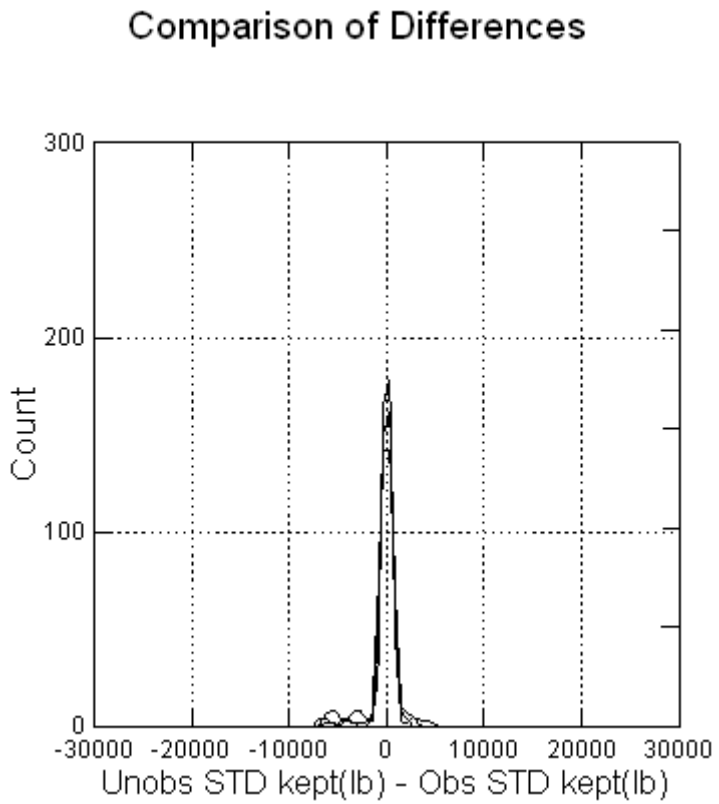


Figure 7, continued. The distribution of differences between the standard deviation of the average kept pounds of unobserved and observed trips for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010), by SBRM species group.

Skate Complex



Small Mesh Groundfish

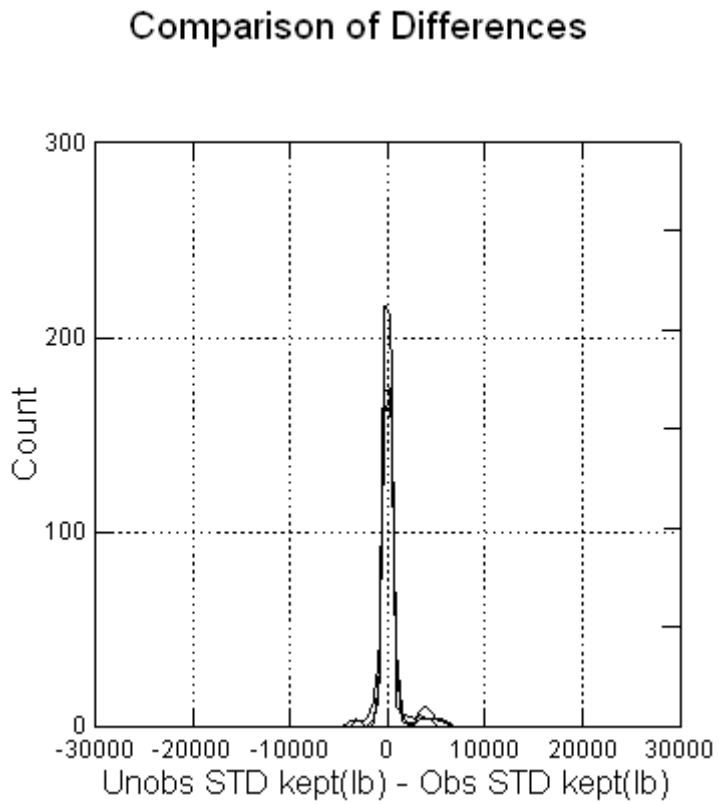
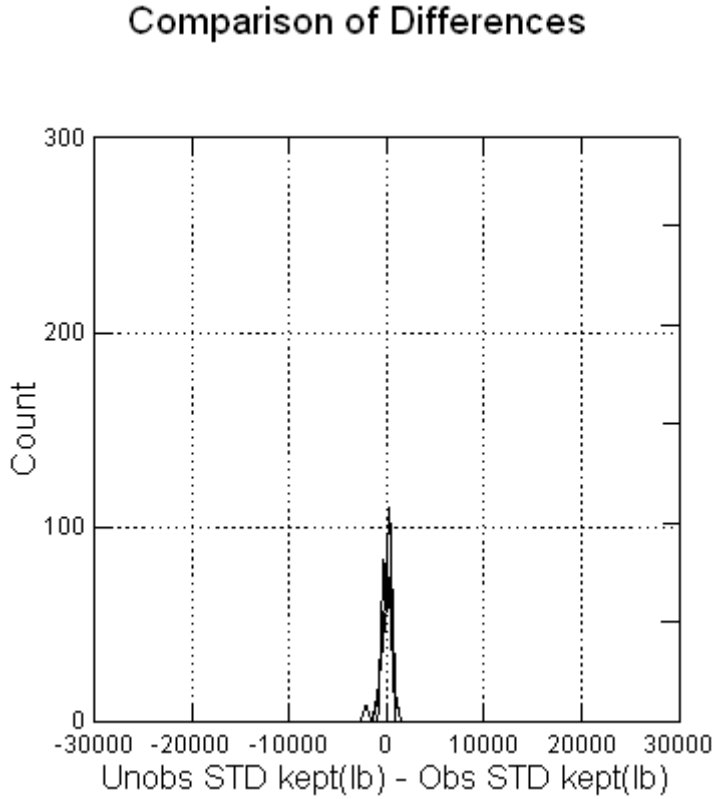


Figure 7, continued. The distribution of differences between the standard deviation of the average kept pounds of unobserved and observed trips for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010), by SBRM species group.

Spiny Dogfish

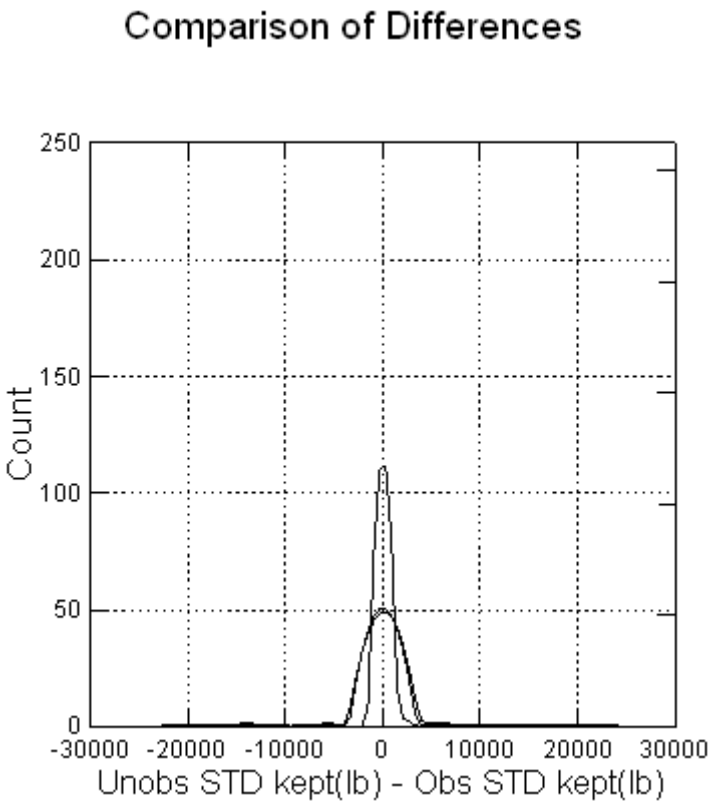


Surfclam and Ocean Quahog

No graph available

Figure 7, continued. The distribution of differences between the standard deviation of the average kept pounds of unobserved and observed trips for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010), by SBRM species group.

Squid-Butterfish-Mackerel



Tilefish

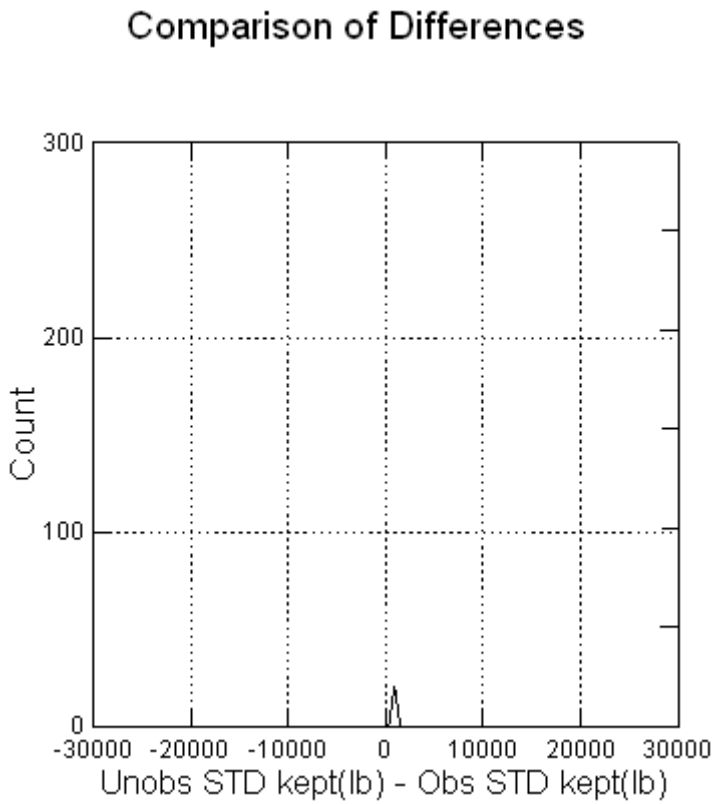


Figure 7, continued. The distribution of differences between the standard deviation of the average kept pounds of unobserved and observed trips for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010), by SBRM species group.

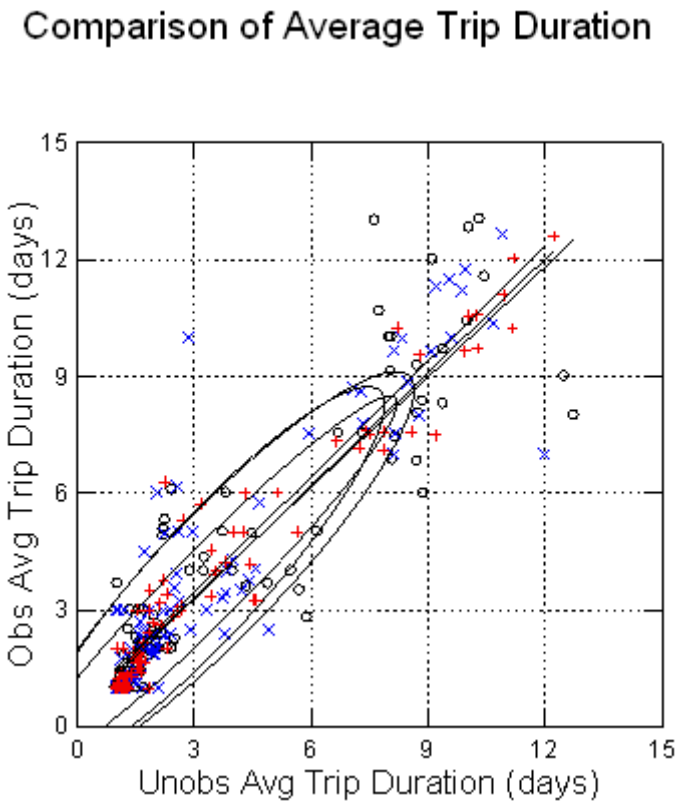


Figure 8. Comparison of average trip duration (days) for unobserved and observed trips for SBRM 2009 (July 2007 through June 2008; black circle), SBRM 2010 (July 2008 through June 2009; red +), and SBRM 2011 (July 2009 through June 2010; blue x). Each symbol represents the mean of an individual stratum (SBRM year, fleet and calendar quarter) for all trips. Ellipse represents 68% confidence internal for each year.

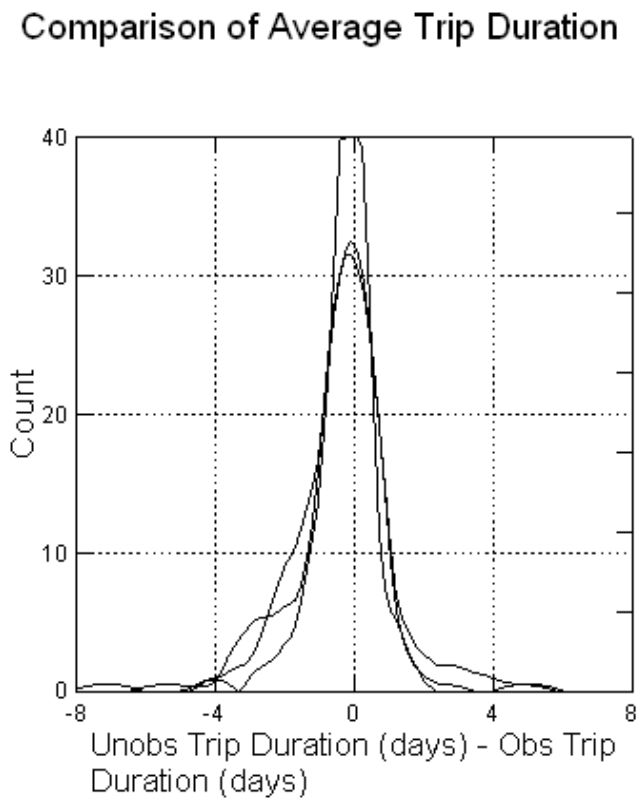


Figure 9. Distribution of differences between the average trip duration (top) and the standard deviation of average trip duration (bottom) of unobserved and observed trips using VTR data for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

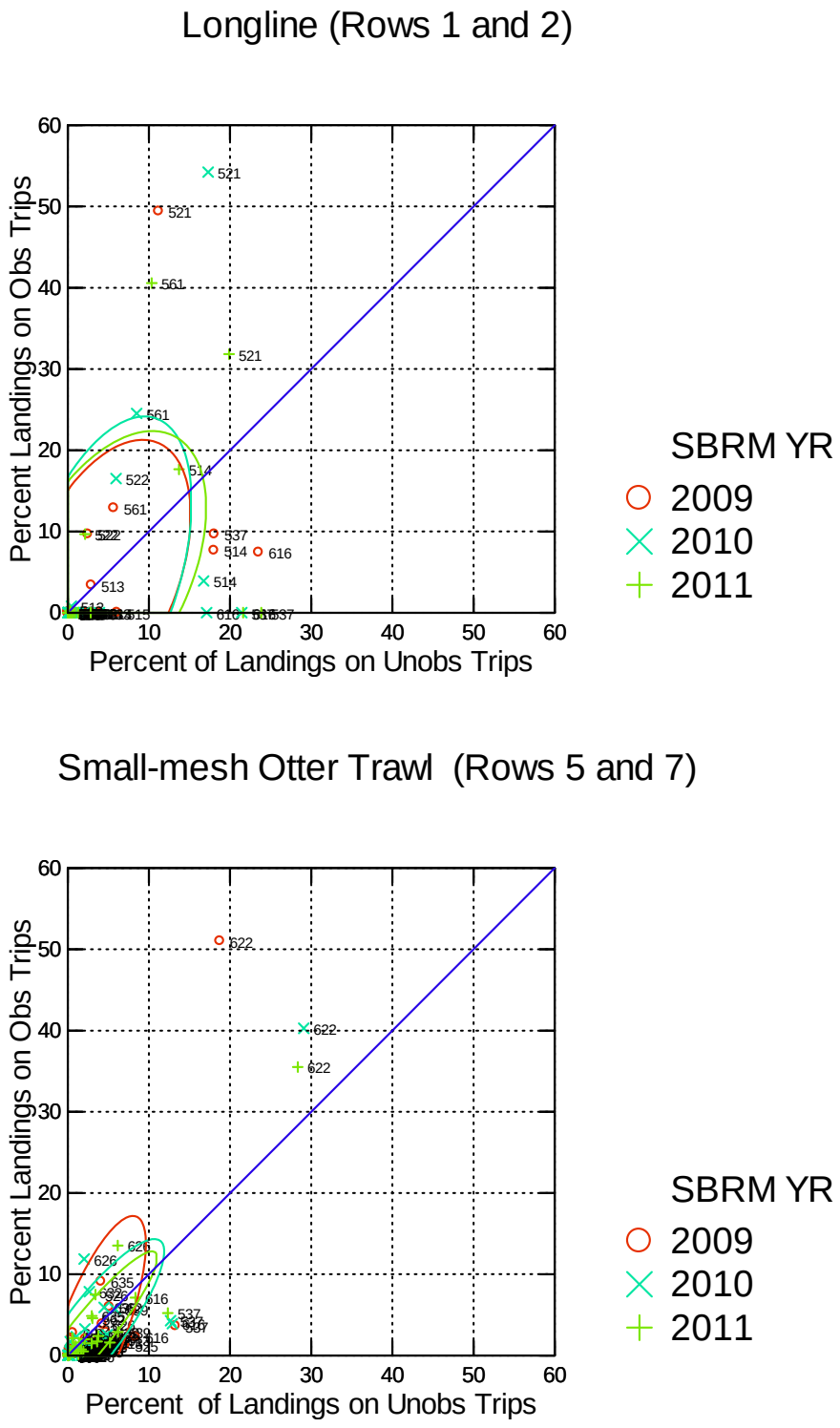


Figure 10. Percentage of landings (all species) by statistical area from observed and unobserved trips for SBRM 2009, (July 2007 through June 2008; red circle), SBRM 2010 (July 2008 through June 2009; cyan x), and SBRM 2011 (July 2009 through June 2010; green +). Each symbol represents a statistical area- fleet-SBRM year). Ellipse represents 68% confidence internal for each year; identity line is indicated in blue.

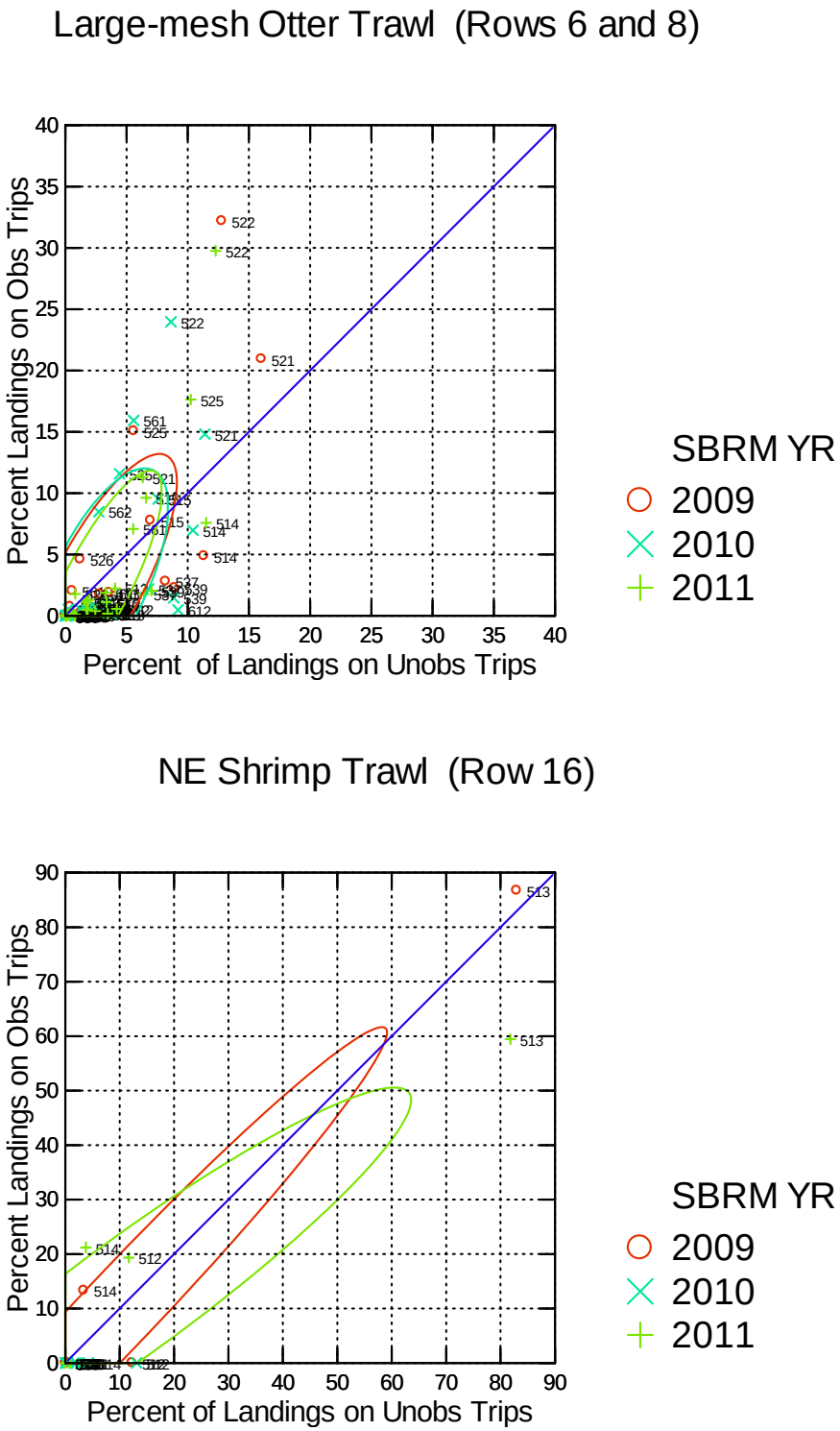


Figure 10, continued. Percentage of landings (all species) by statistical area from observed and unobserved VTR trips for SBRM 2009, (July 2007 through June 2008; red circle), SBRM 2010 (July 2008 through June 2009; cyan x), and SBRM 2011 (July 2009 through June 2010; green +). Each symbol represents a statistical area, fleet, and SBRM year. Ellipse represents 68% confidence internal for each year; identity line is indicated in blue.

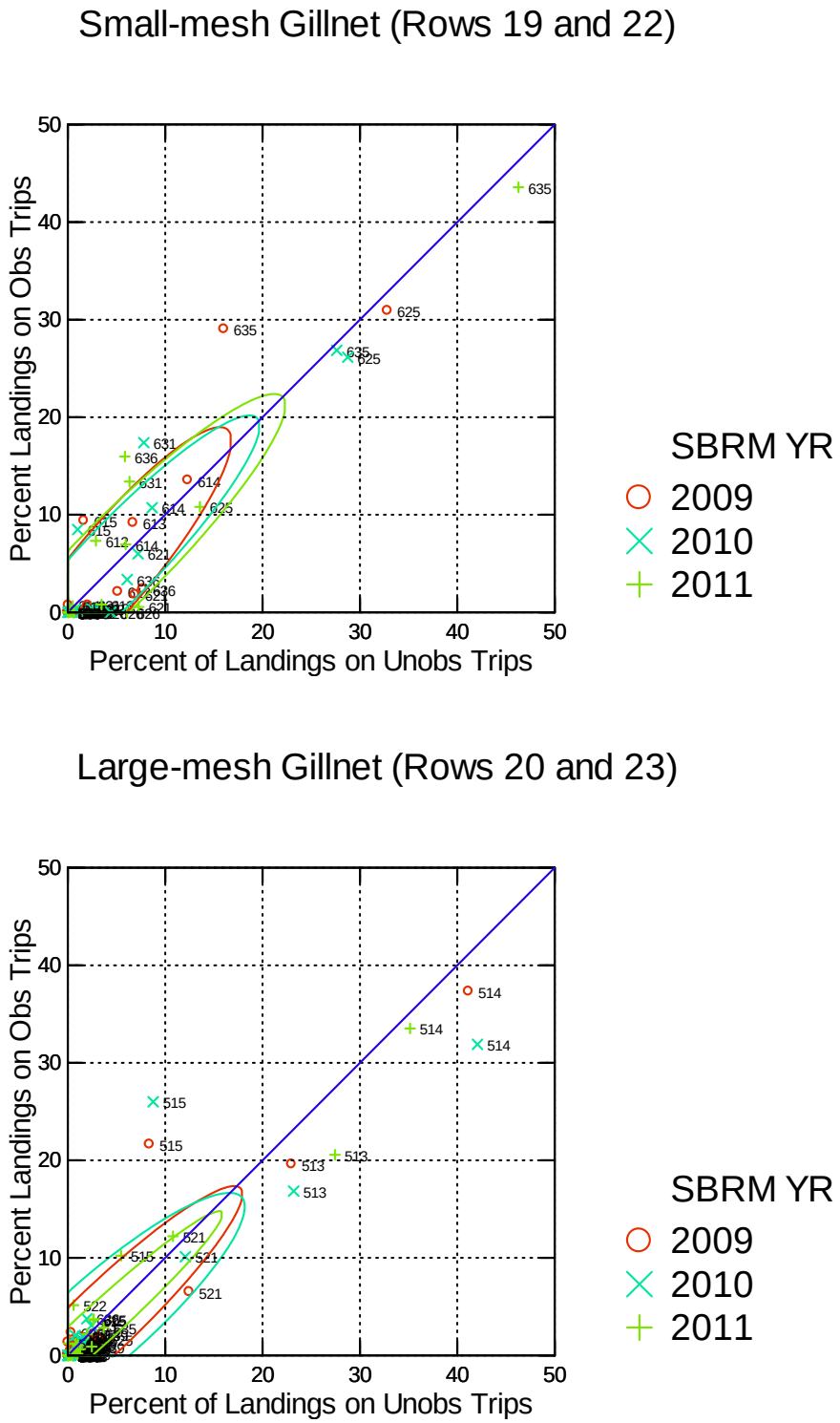
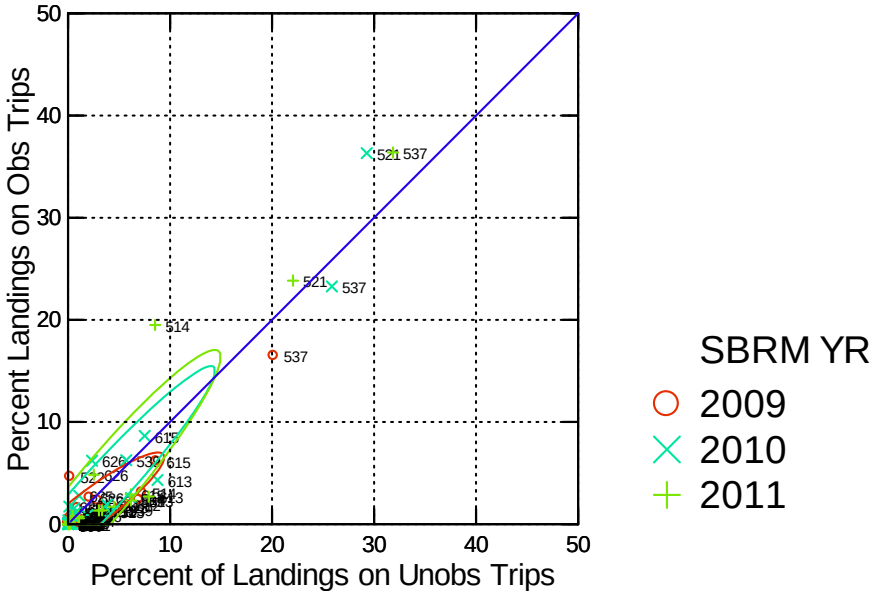


Figure 10, continued. Percentage of landings (all species) by statistical area from observed and unobserved VTR trips for SBRM 2009, (July 2007 through June 2008; red circle), SBRM 2010 (July 2008 through June 2009; cyan x), and SBRM 2011 (July 2009 through June 2010; green +). Each symbol represents a statistical area, fleet, and SBRM year. Ellipse represents 68% confidence internal for each year; identity line is indicated in blue.

Extra large-mesh Gillnet (Rows 21 and 24)



Scallop Dredge AA GEN (Rows 27 and 28)

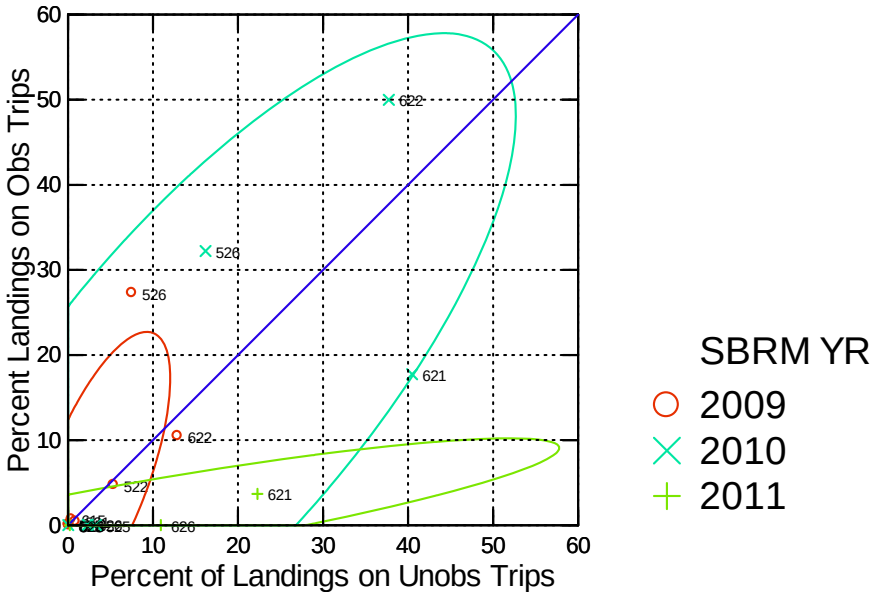
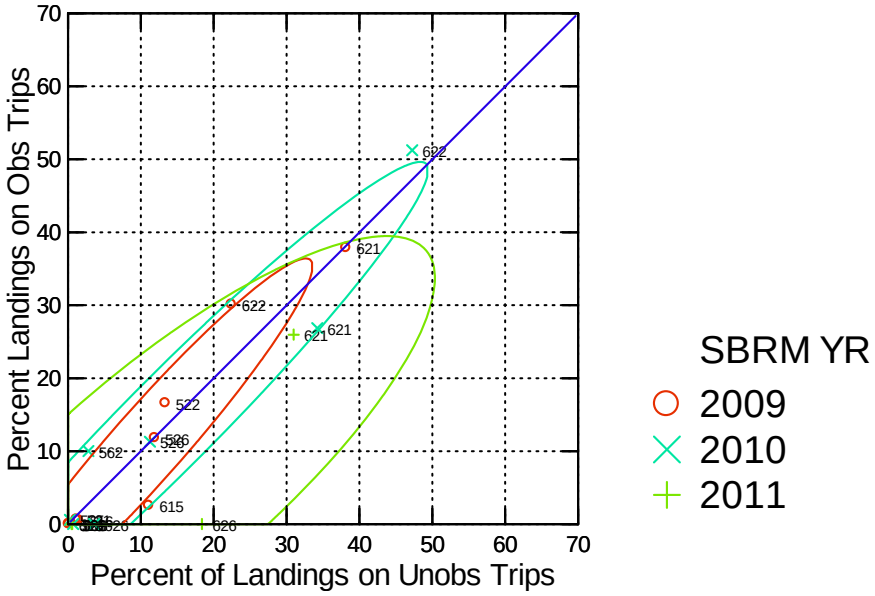


Figure 10, continued. Percentage of landings (all species) by statistical area from observed and unobserved VTR trips for SBRM 2009, (July 2007 through June 2008; red circle), SBRM 2010 (July 2008 through June 2009; cyan x), and SBRM 2011 (July 2009 through June 2010; green +). Each symbol represents a statistical area, fleet, and SBRM year. Ellipse represents 68% confidence internal for each year; identity line is indicated in blue.

Scallop Dredge AA LIM (Rows 29 and 30)



Scallop Dredge OPEN GEN (Rows 31 and 32)

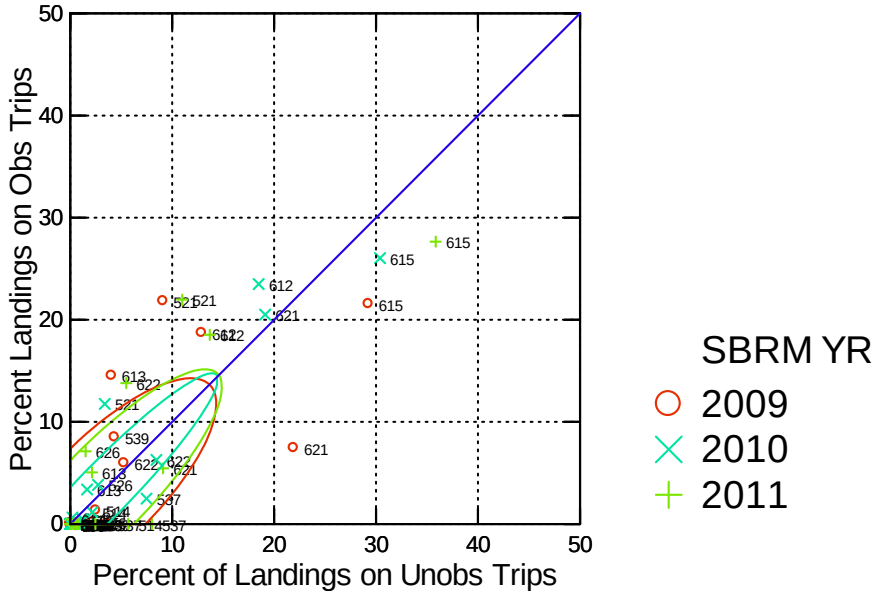
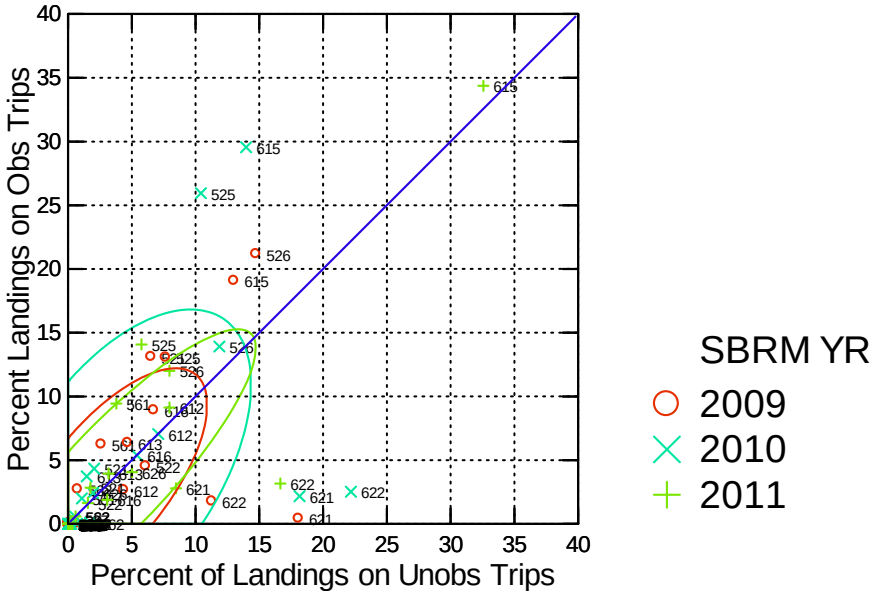


Figure 10, continued. Percentage of landings (all species) by statistical area from observed and unobserved VTR trips for SBRM 2009, (July 2007 through June 2008; red circle), SBRM 2010 (July 2008 through June 2009; cyan x), and SBRM 2011 (July 2009 through June 2010; green +). Each symbol represents a statistical area, fleet, and SBRM year. Ellipse represents 68% confidence internal for each year; identity line is indicated in blue.

Scallop Dredge OPEN LIM (Rows 33 and 34)



Mid-water Trawl (Rows 35 and 36)

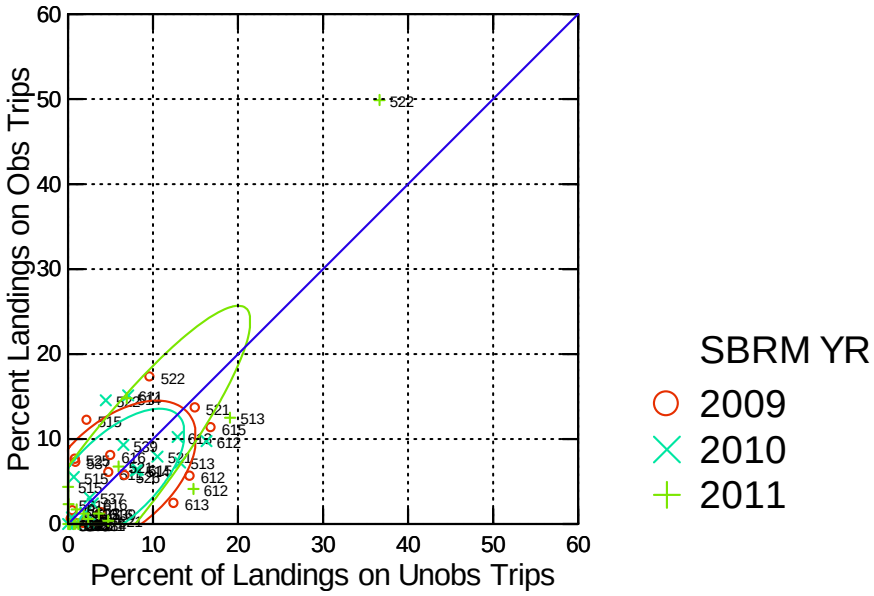
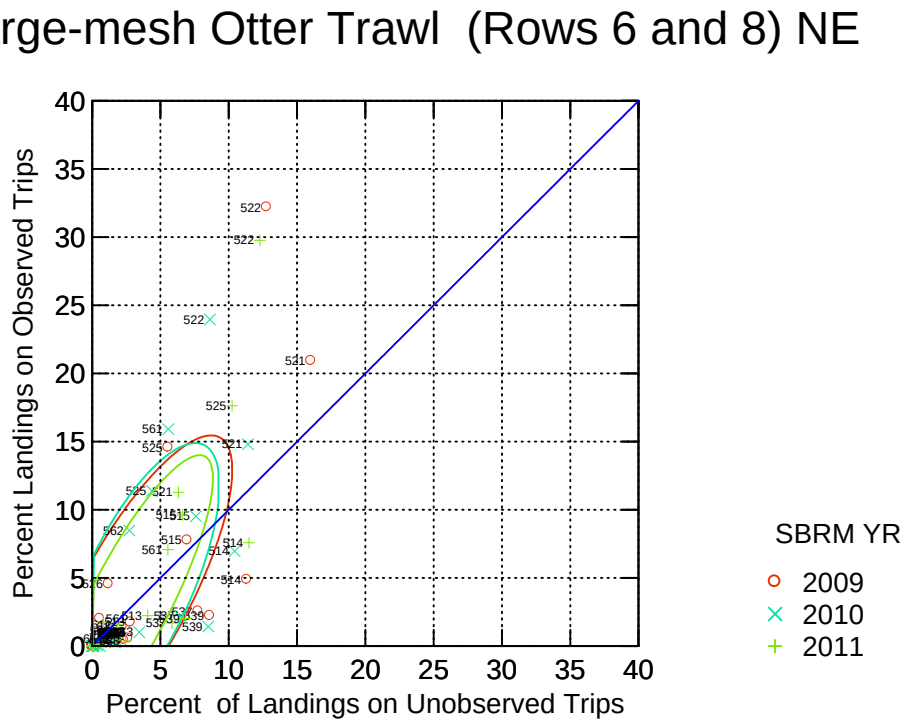


Figure 10, continued. Percentage of landings (all species) by statistical area from observed and unobserved VTR trips for SBRM 2009, (July 2007 through June 2008; red circle), SBRM 2010 (July 2008 through June 2009; cyan x), and SBRM 2011 (July 2009 through June 2010; green +). Each symbol represents a statistical area, fleet, and SBRM year. Ellipse represents 68% confidence internal for each year; identity line is indicated in blue.



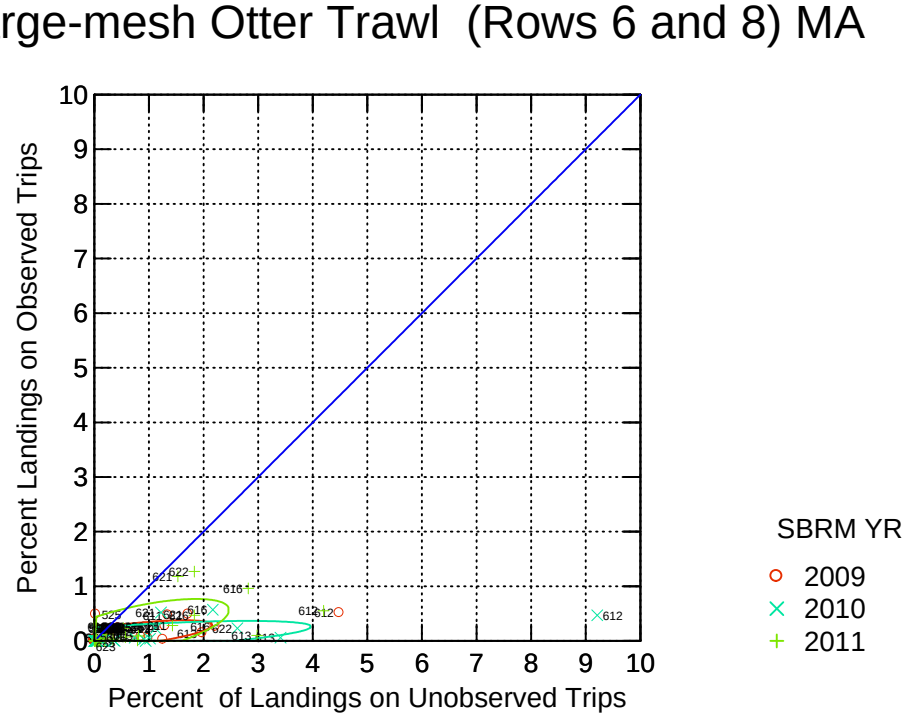
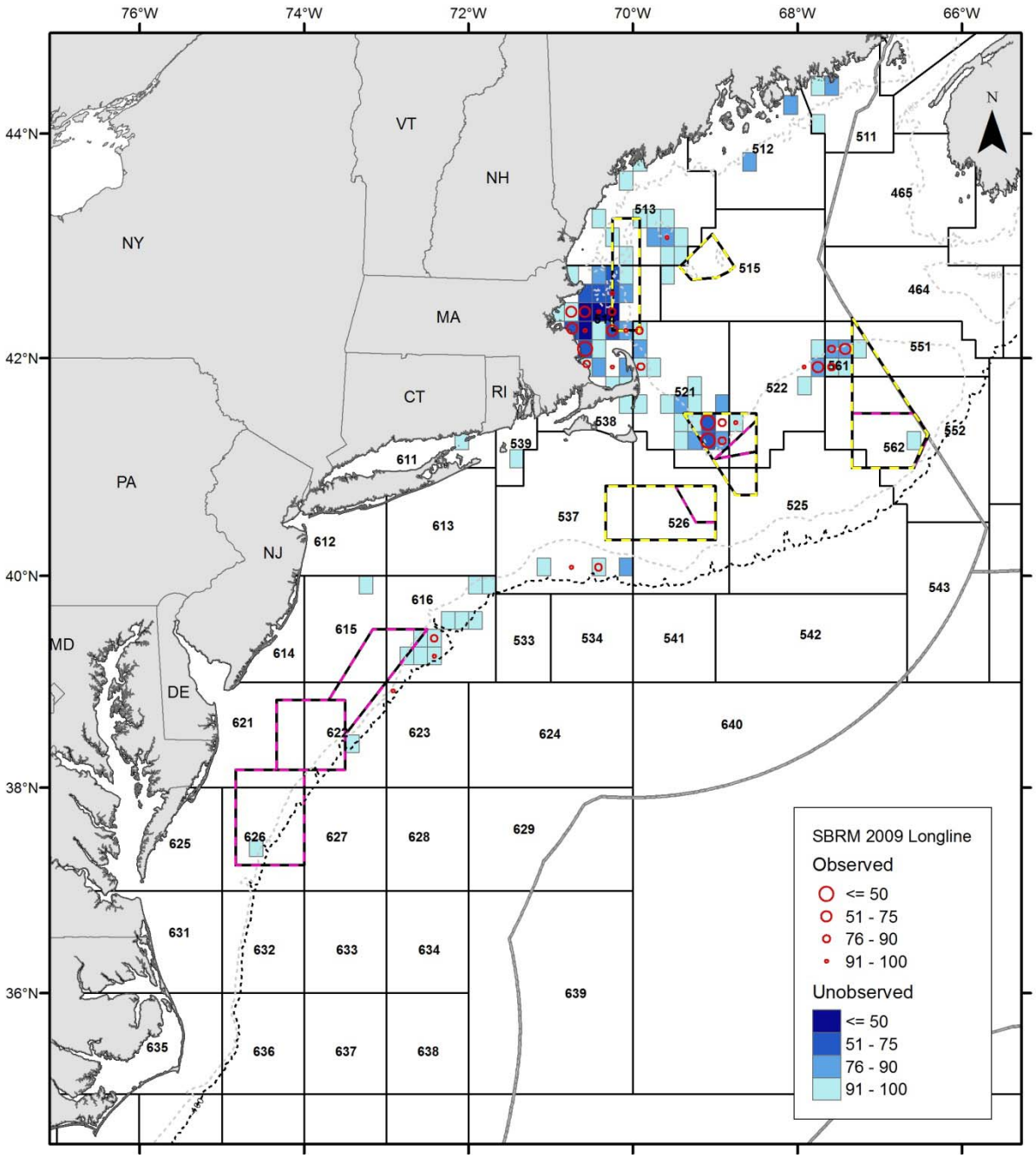
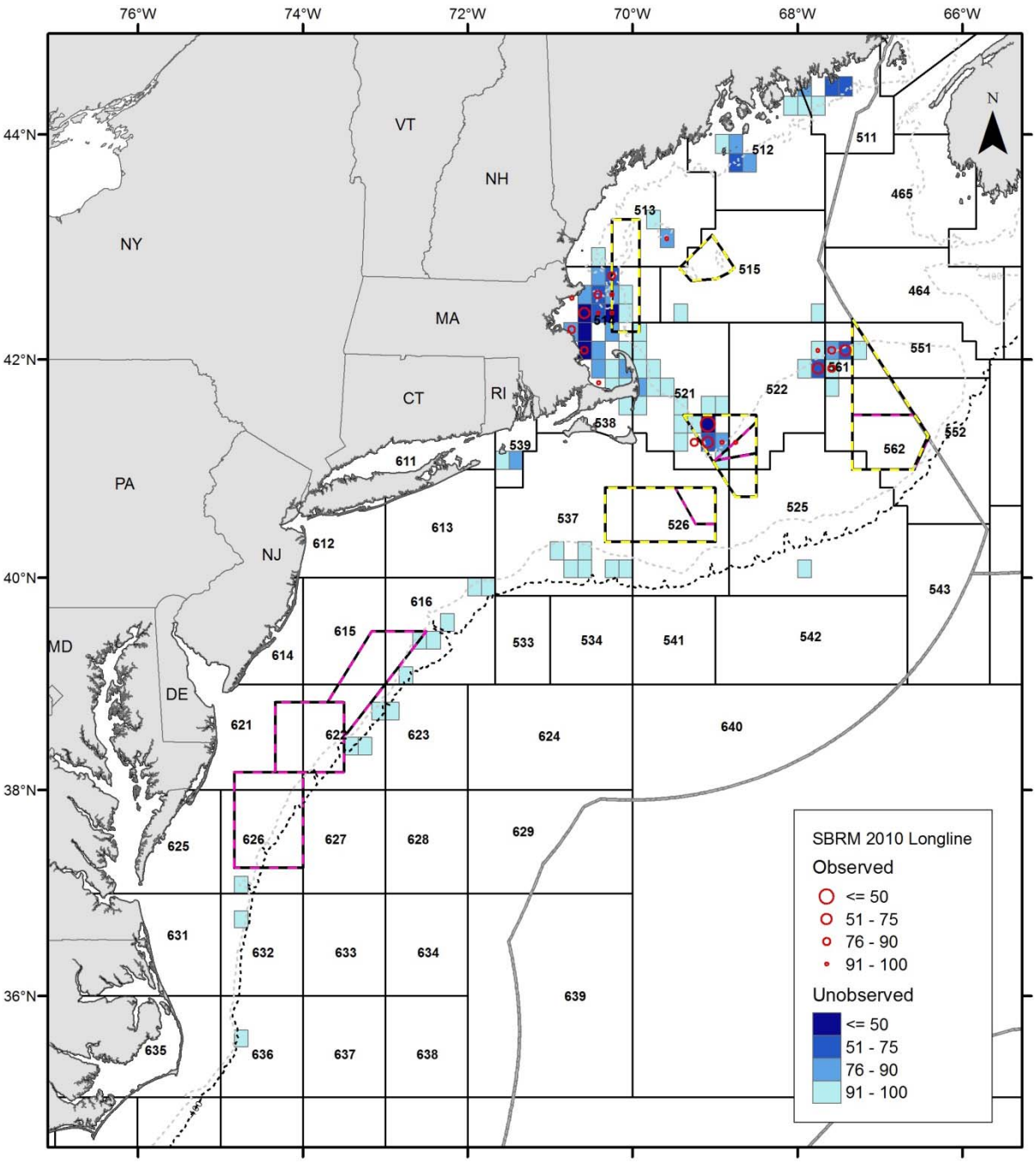


Figure 10, continued. Percentage of landings (all species) by statistical area from observed and unobserved VTR trips for SBRM 2009, (July 2007 through June 2008; red circle), SBRM 2010 (July 2008 through June 2009; cyan x), and SBRM 2011 (July 2009 through June 2010; green +). Each symbol represents a statistical area, fleet, and SBRM year. Ellipse represents 68% confidence internal for each year; identity line is indicated in blue.



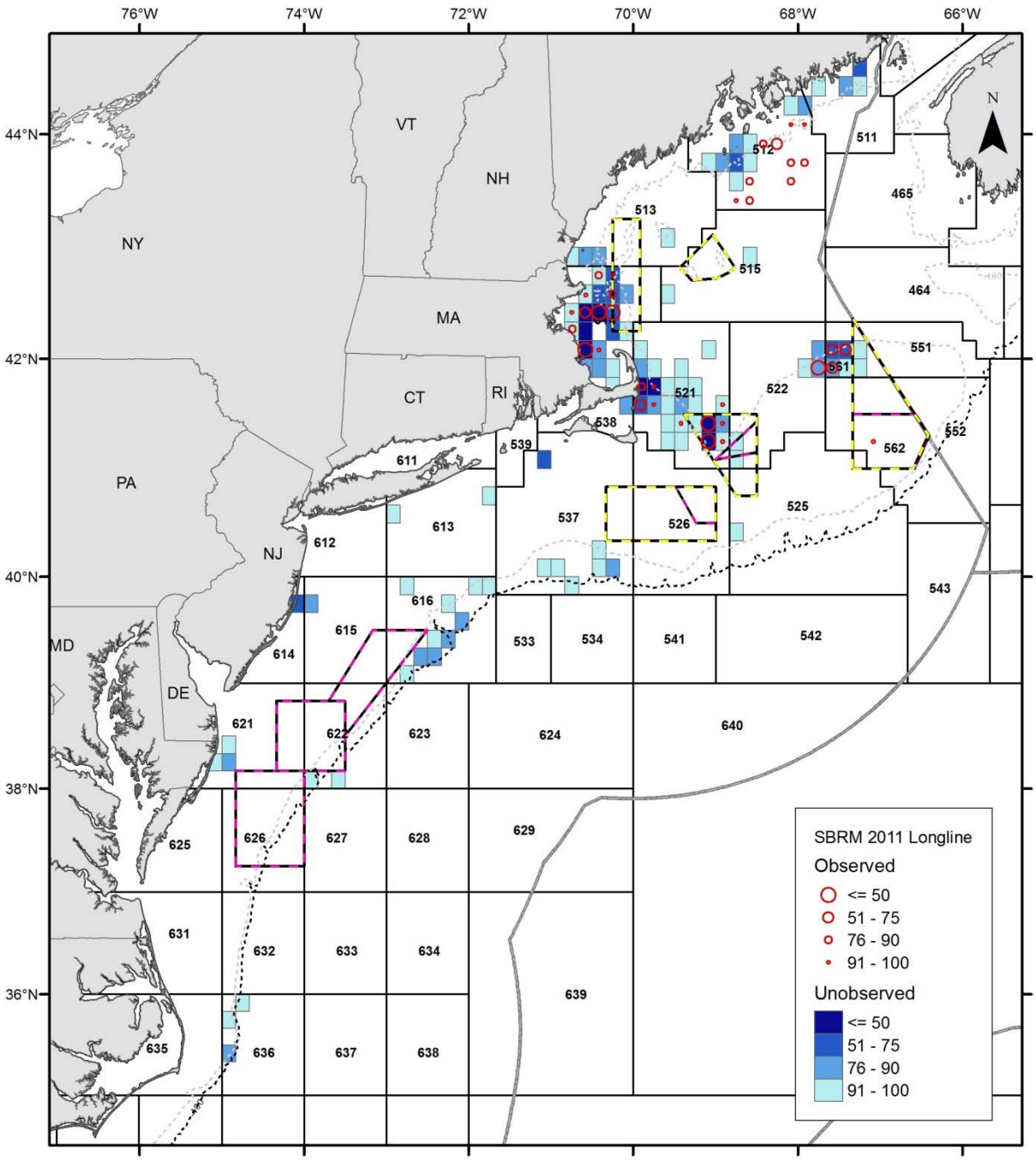
Longline (Rows 1 and 2), SBRM 2009

Figure 11. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



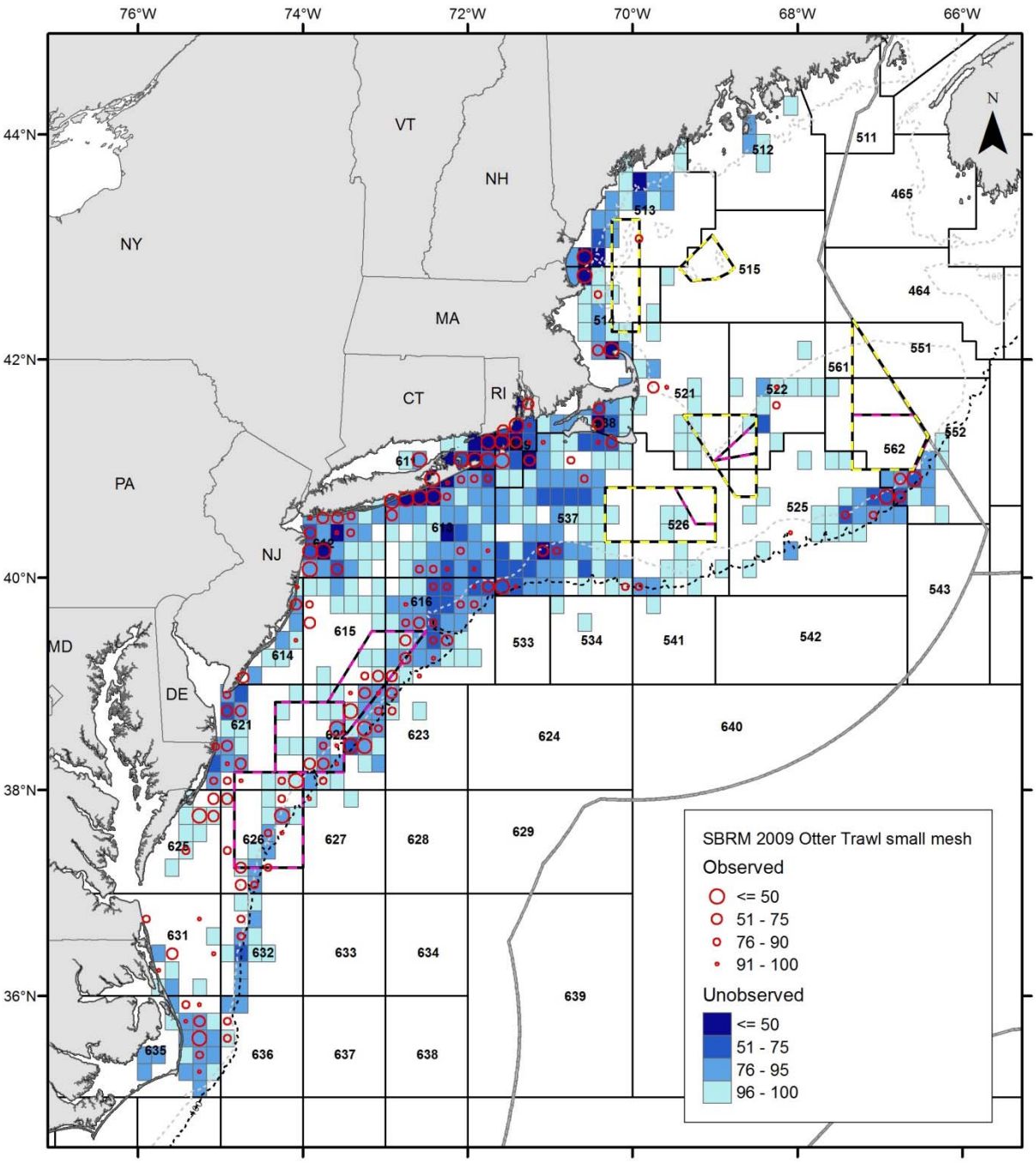
Longline (Rows 1 and 2), SBRM 2010

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



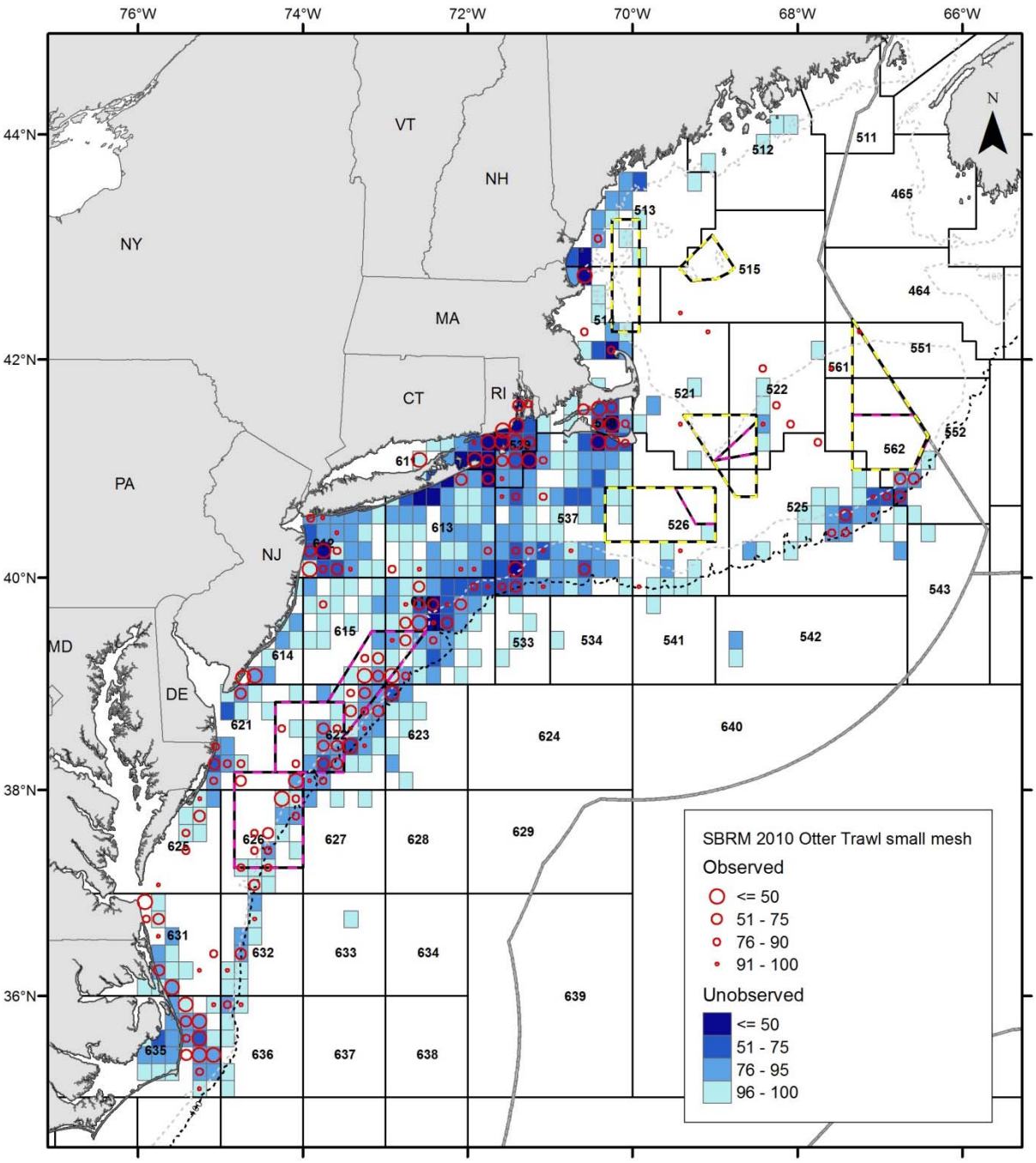
Longline (Rows 1 and 2), SBRM 2011

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



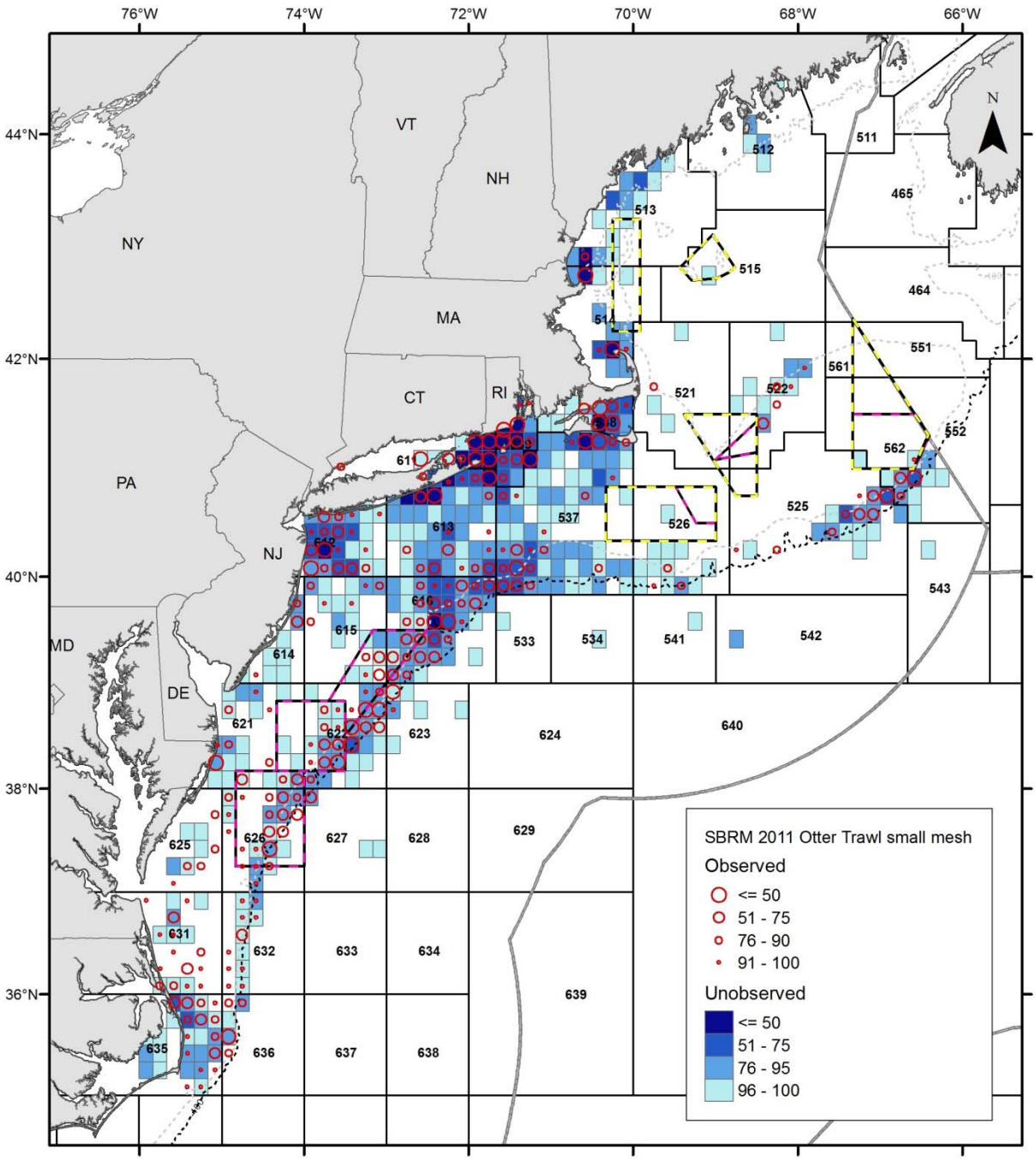
Otter Trawl small mesh (Rows 5 and 7), SBRM 2009

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



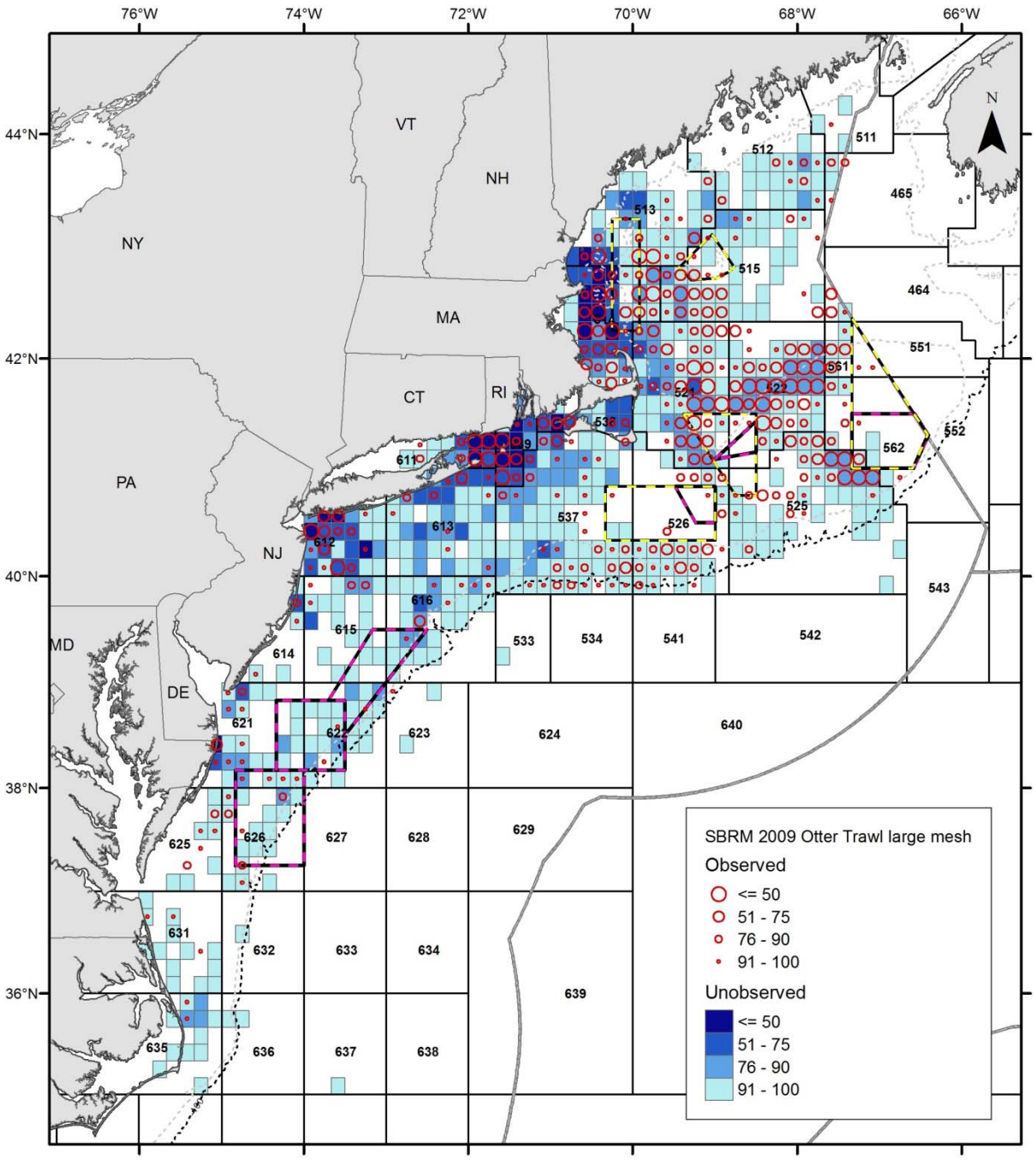
Otter Trawl small mesh (Rows 5 and 7), SBRM 2010

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



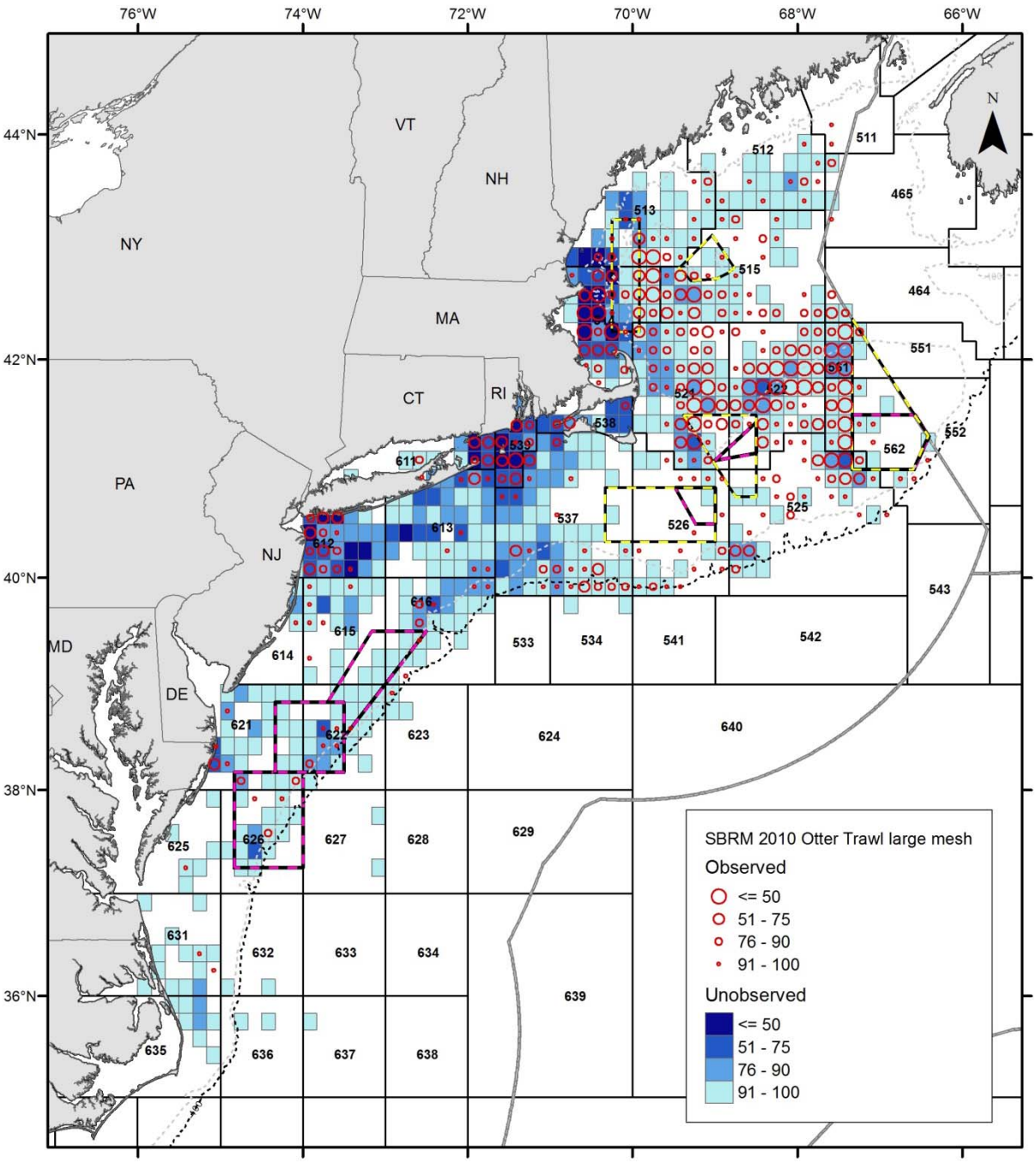
Otter Trawl small mesh (Rows 5 and 7), SBRM 2011

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



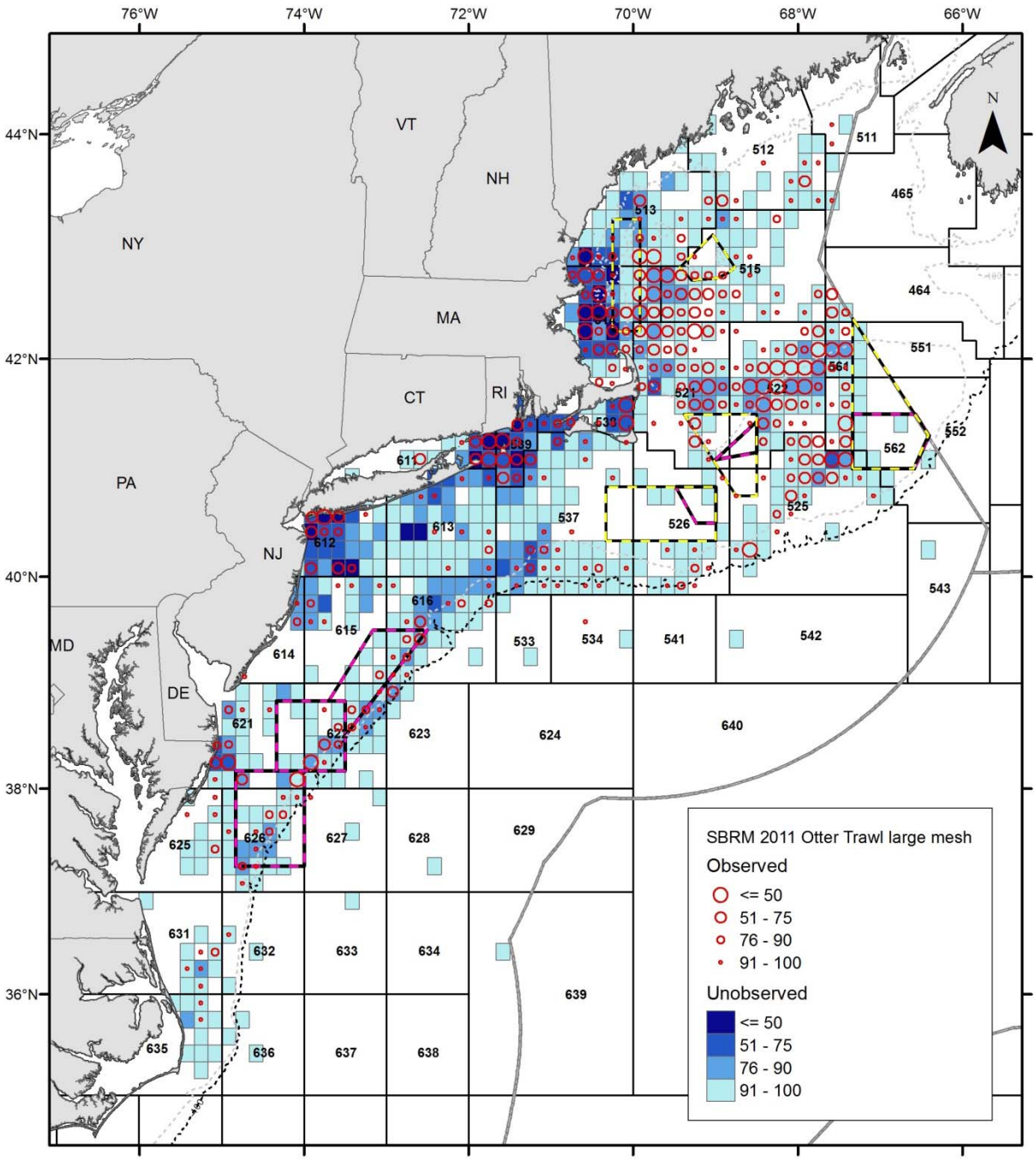
Otter Trawl large mesh (Rows 6 and 8), SBRM 2009

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



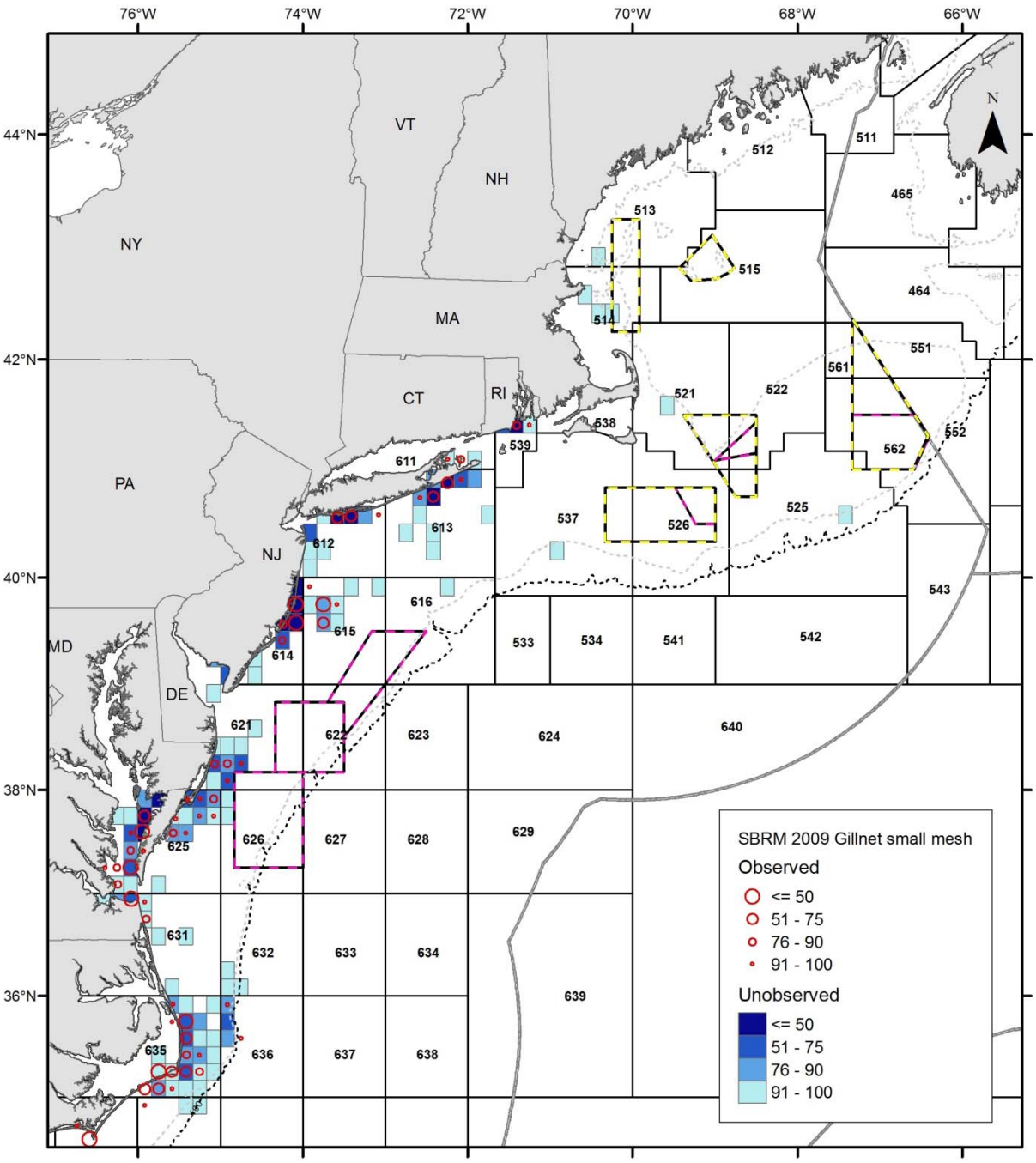
Otter Trawl large mesh (Rows 6 and 8), SBRM 2010

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



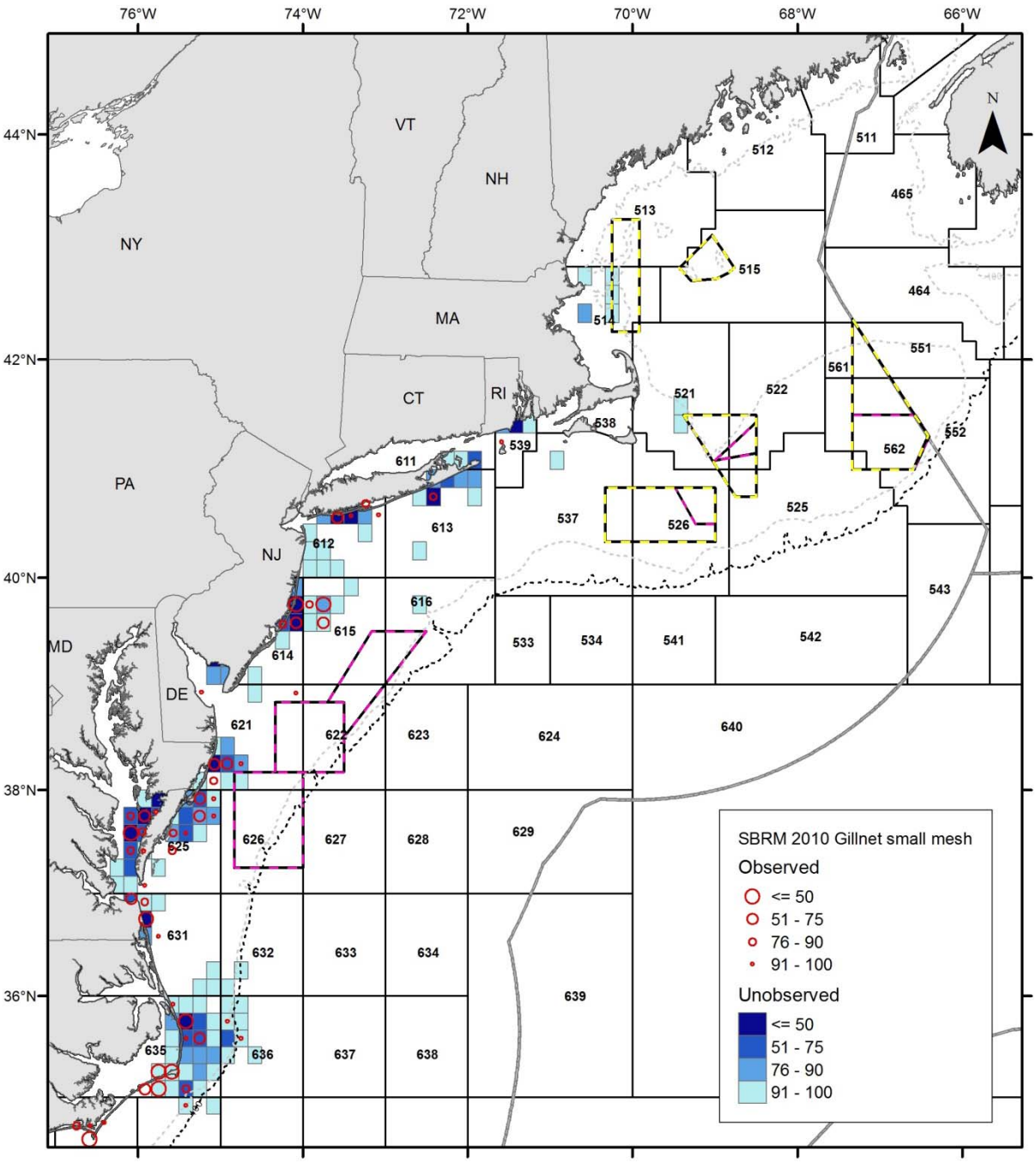
Otter Trawl large mesh (Rows 6 and 8), SBRM 2011

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



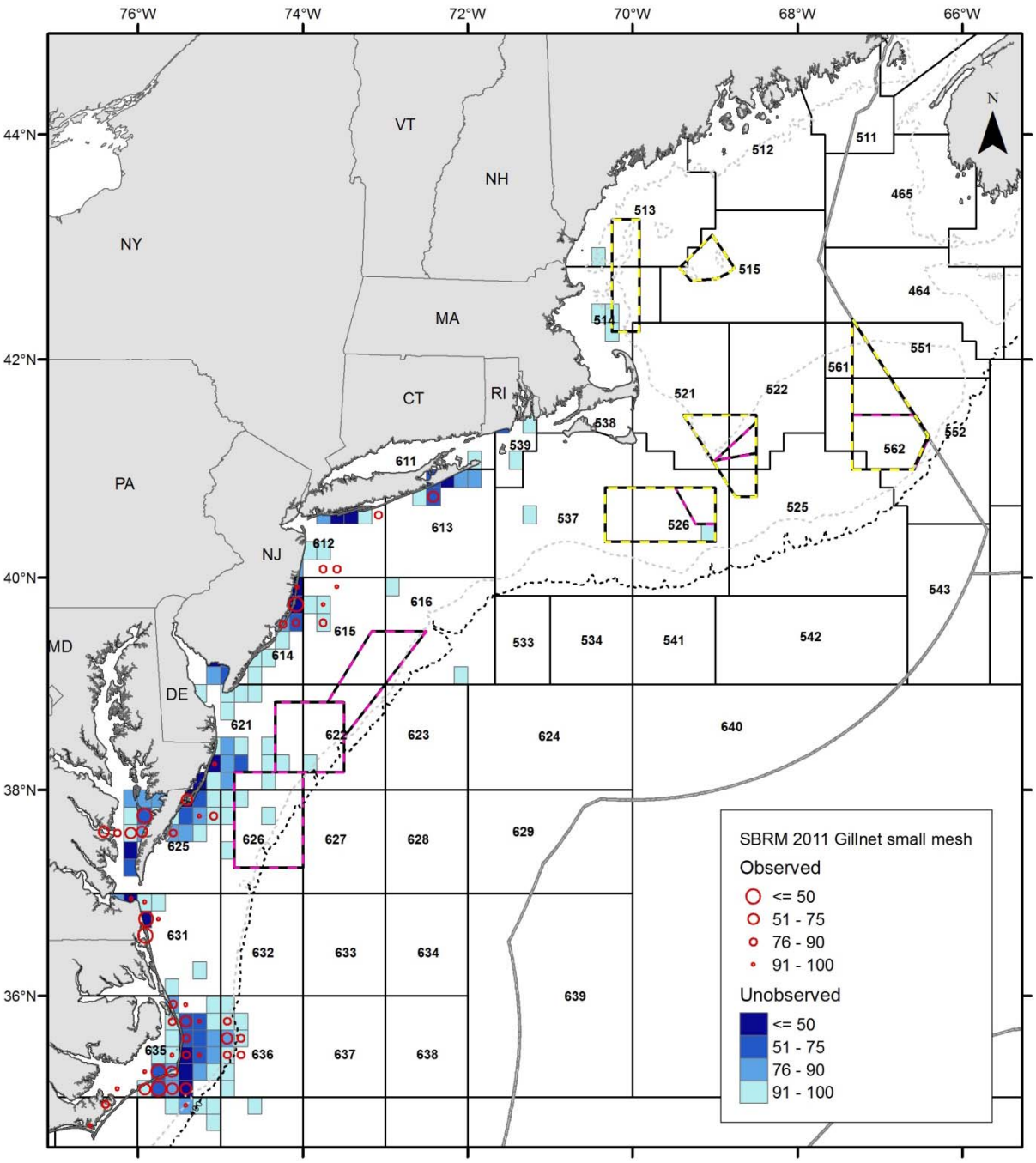
Gillnet small mesh (Rows 19 and 22), SBRM 2009

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



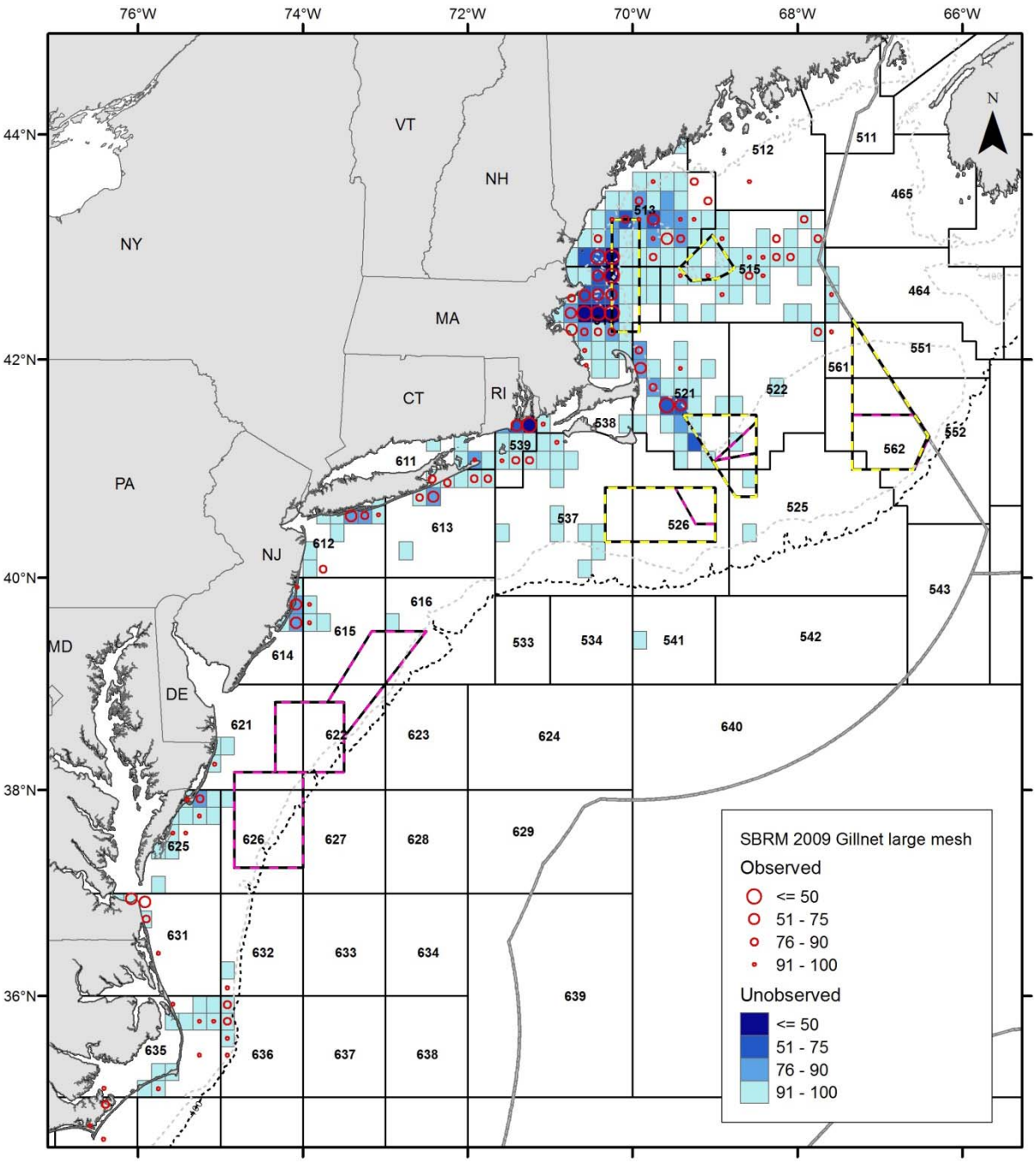
Gillnet small mesh (Rows 19 and 22), SBRM 2010

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



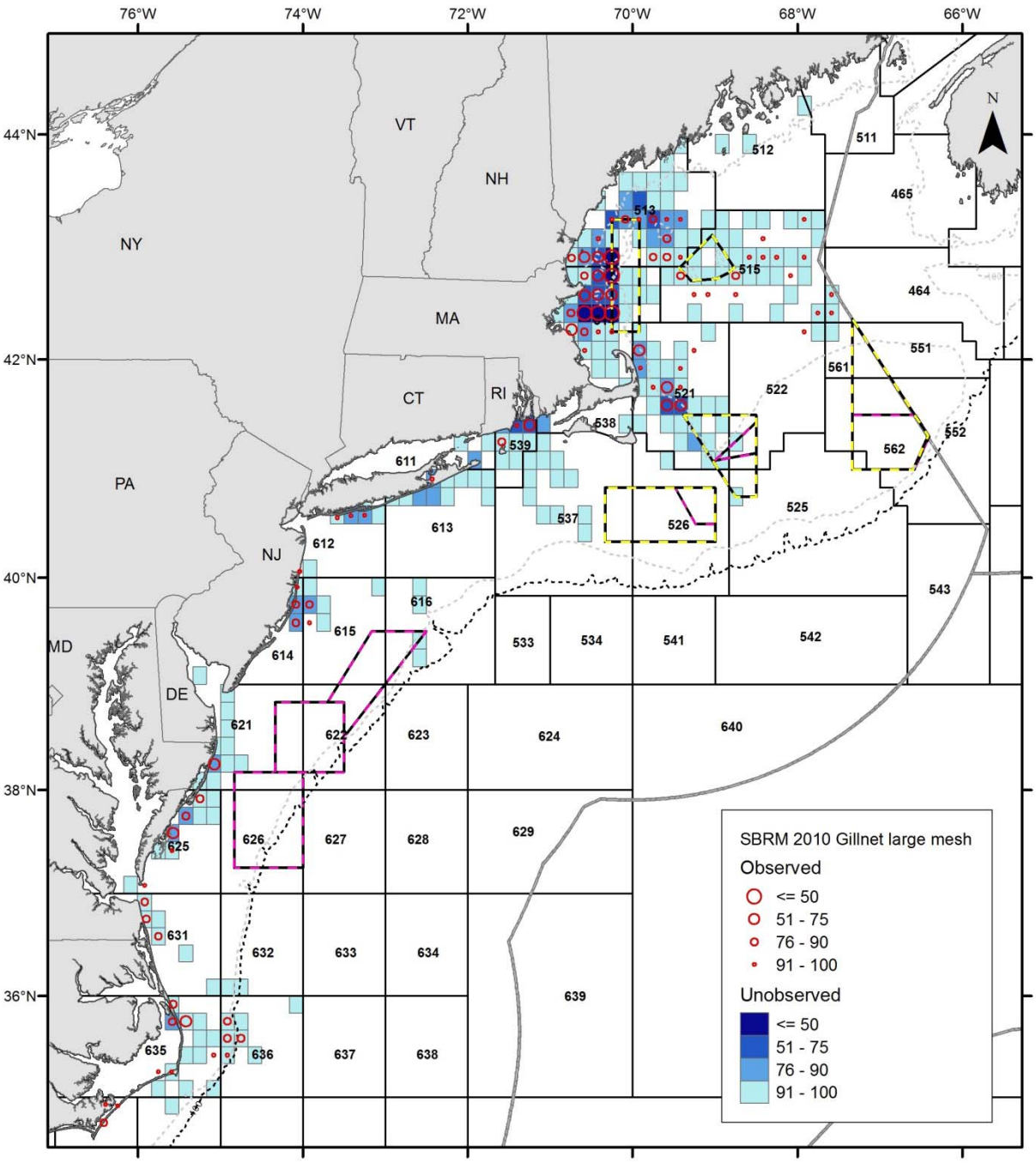
Gillnet small mesh (Rows 19 and 22), SBRM 2011

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



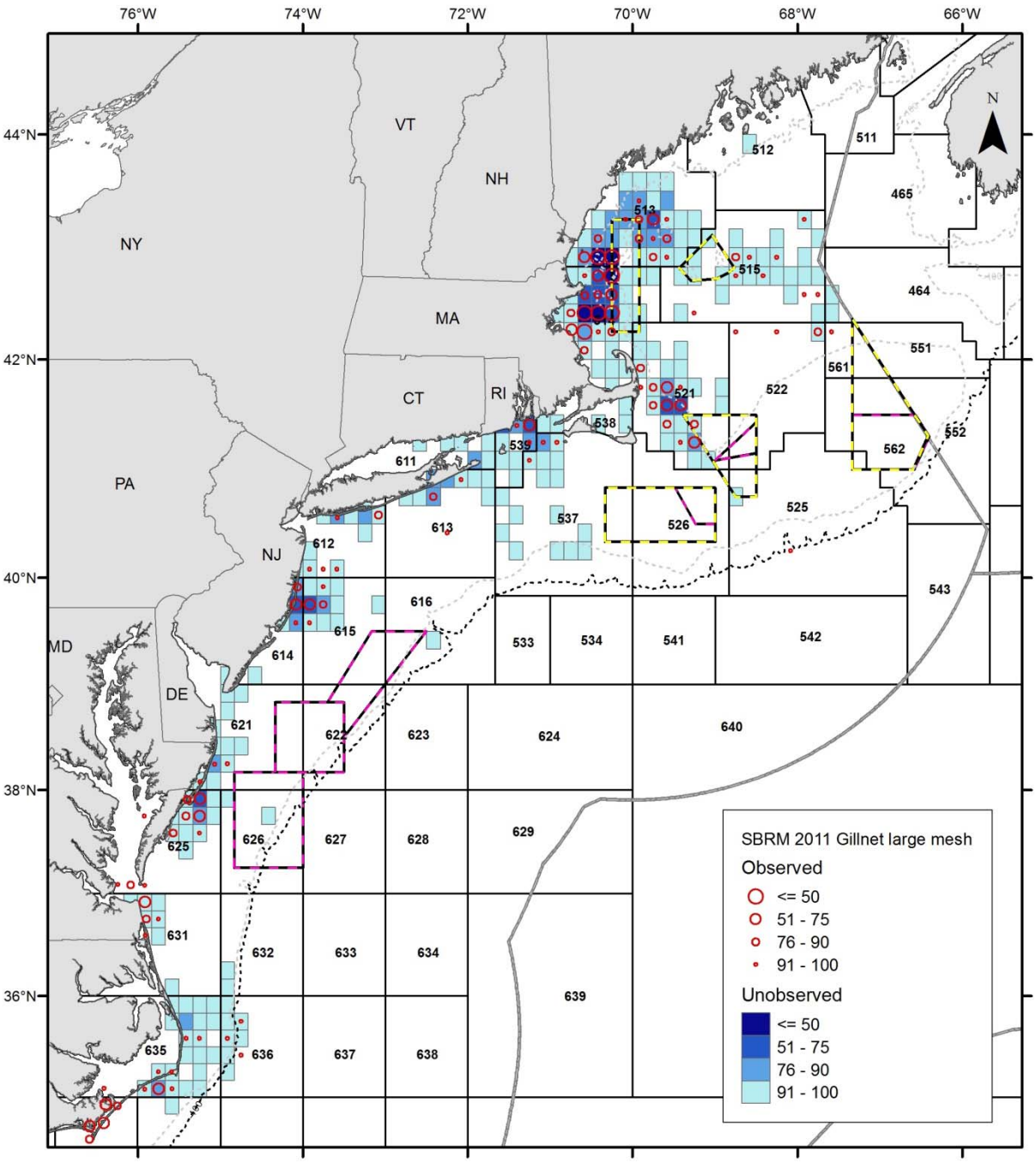
Gillnet large mesh (Rows 20 and 23), SBRM 2009

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



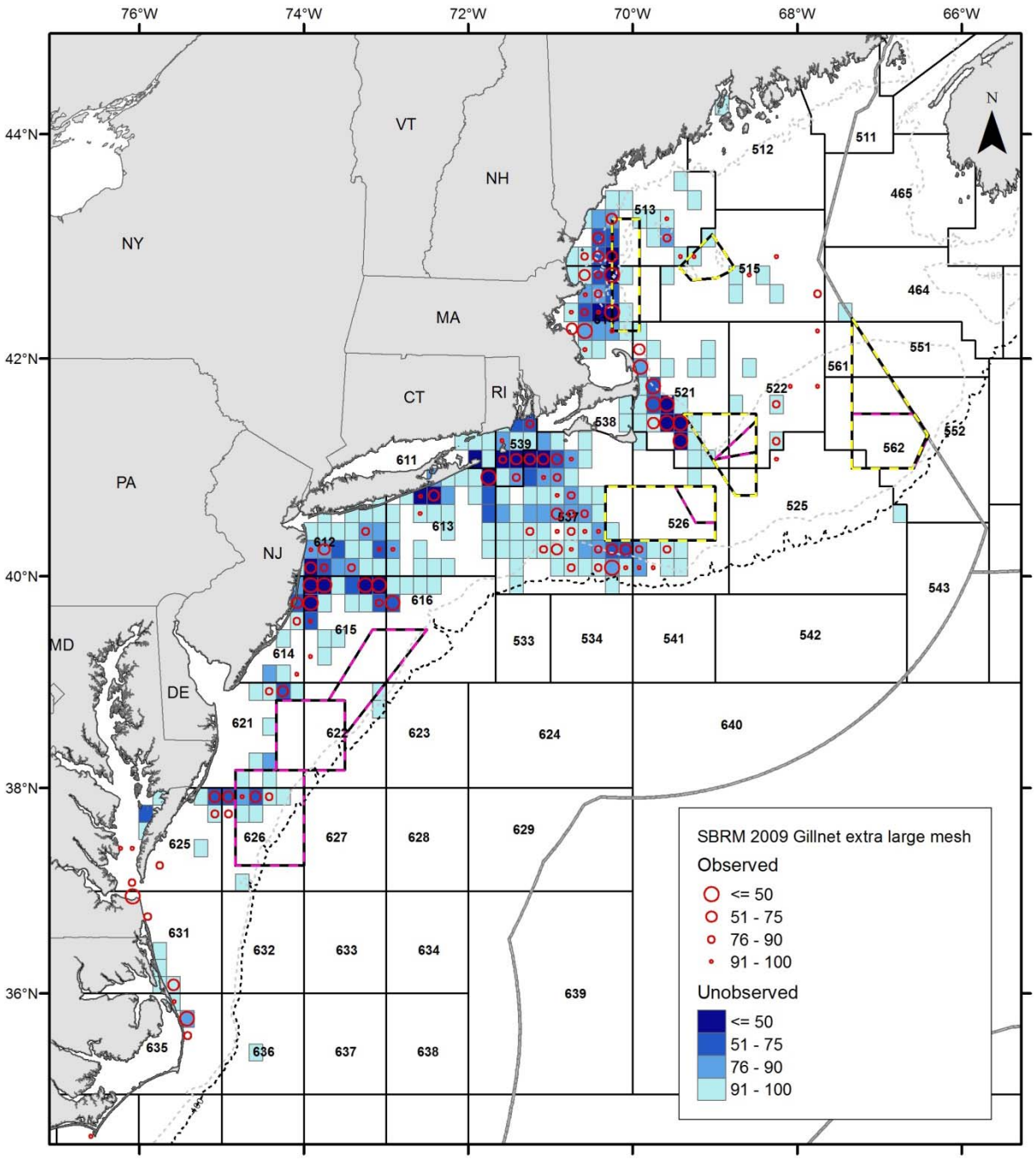
Gillnet large mesh (Rows 20 and 23), SBRM 2010

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



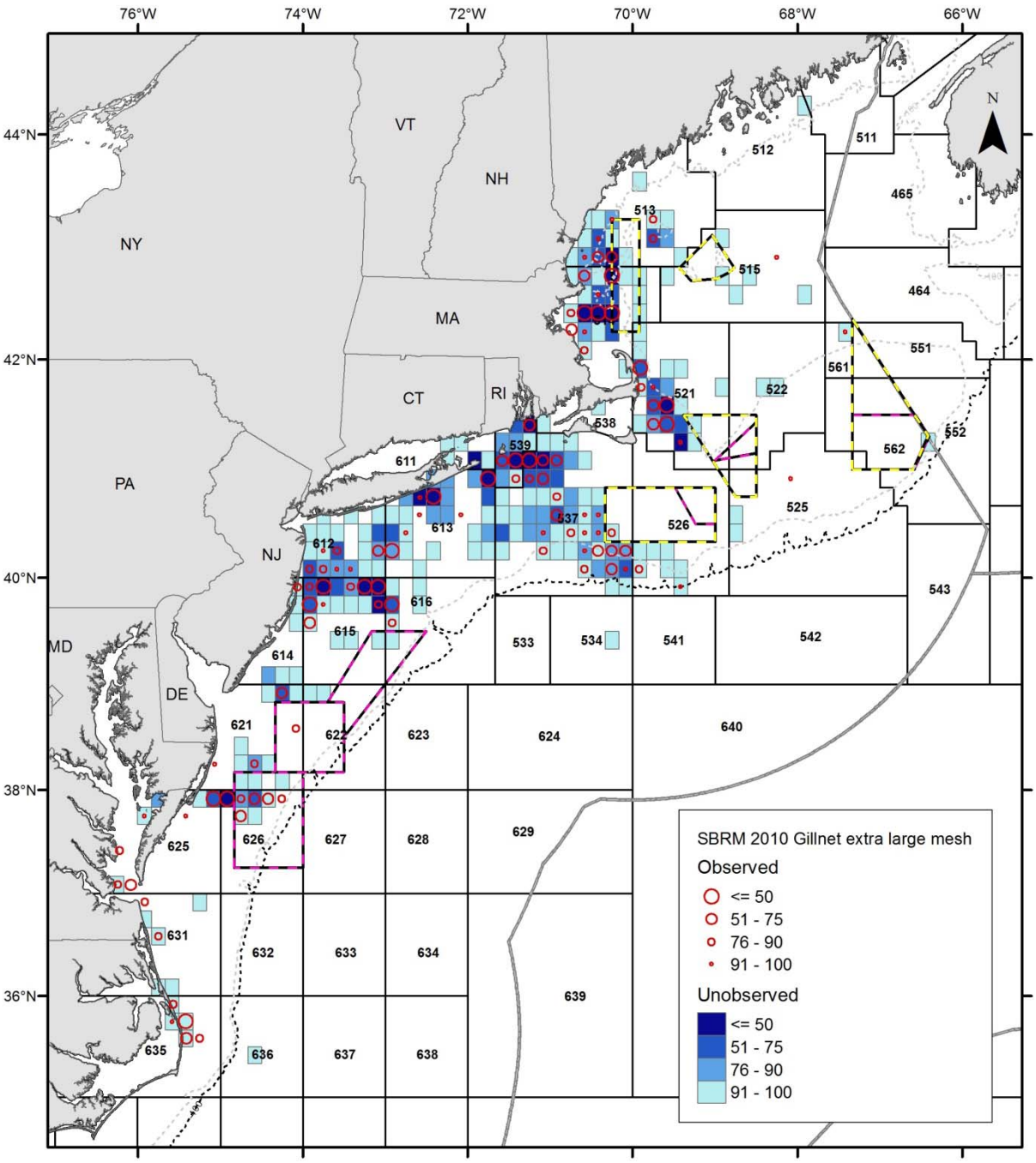
Gillnet large mesh (Rows 20 and 23), SBRM 2011

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



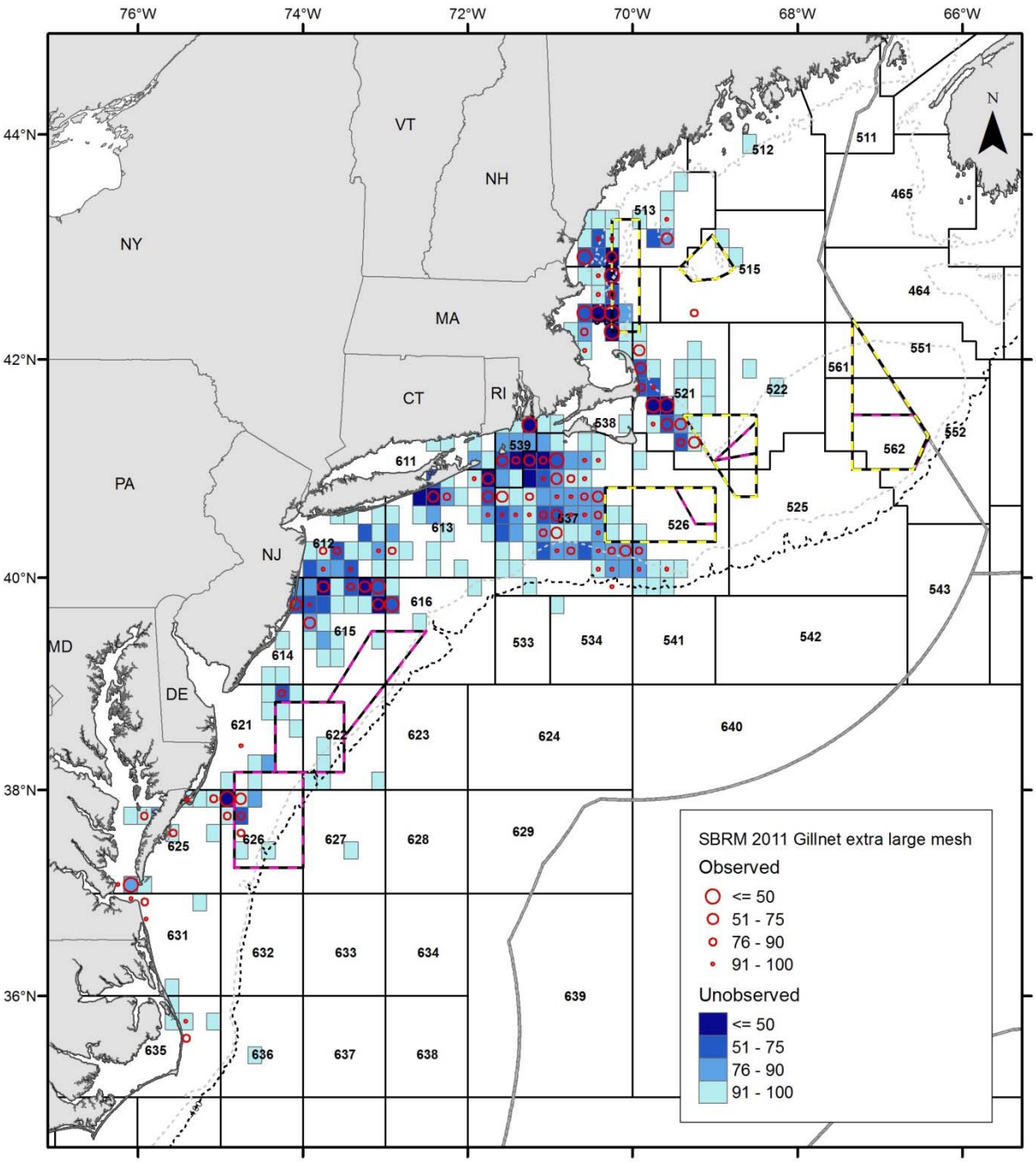
Gillnet extra large mesh (Rows 21 and 24), SBRM 2009

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



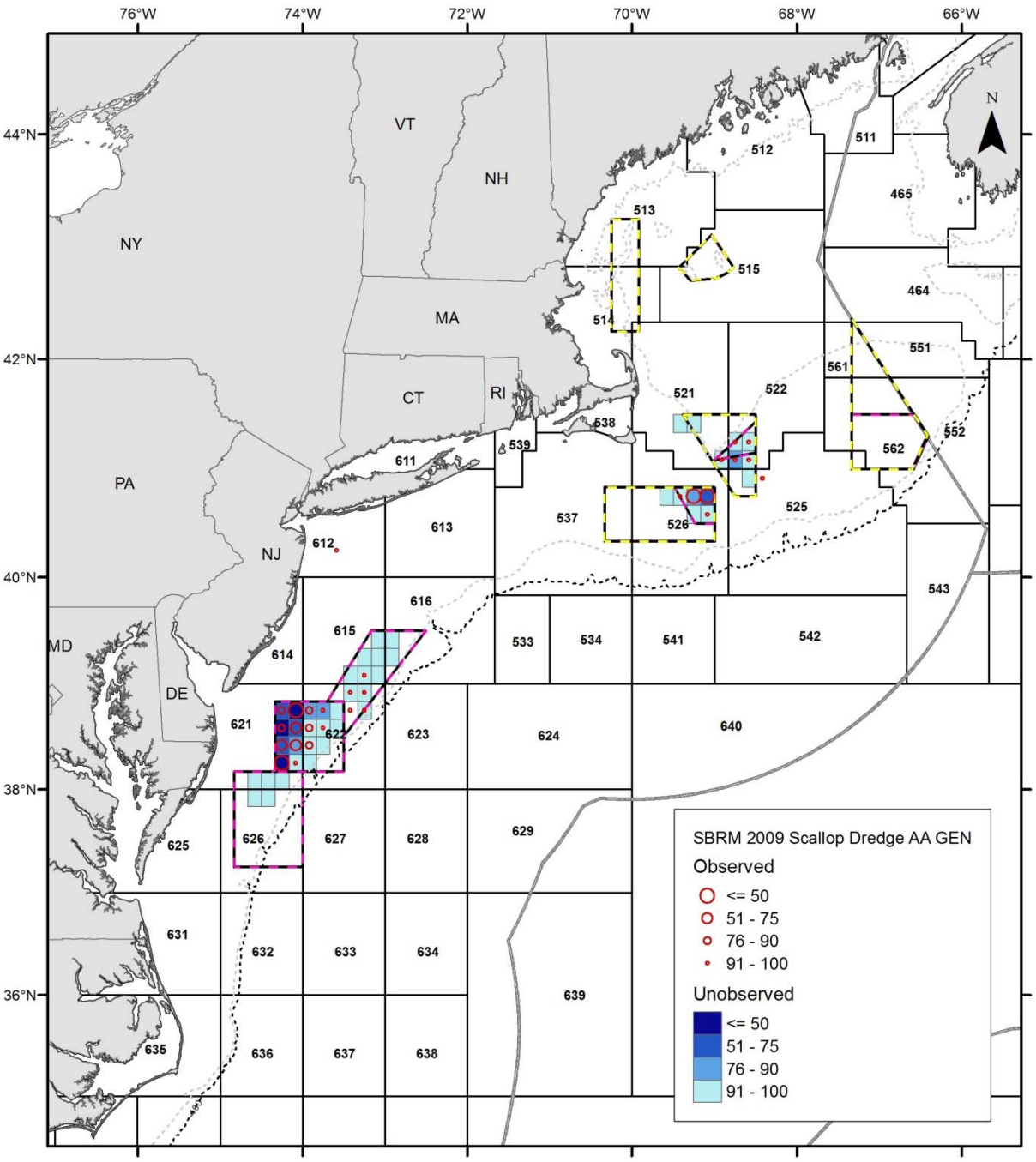
Gillnet extra large mesh (Rows 21 and 24), SBRM 2010

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



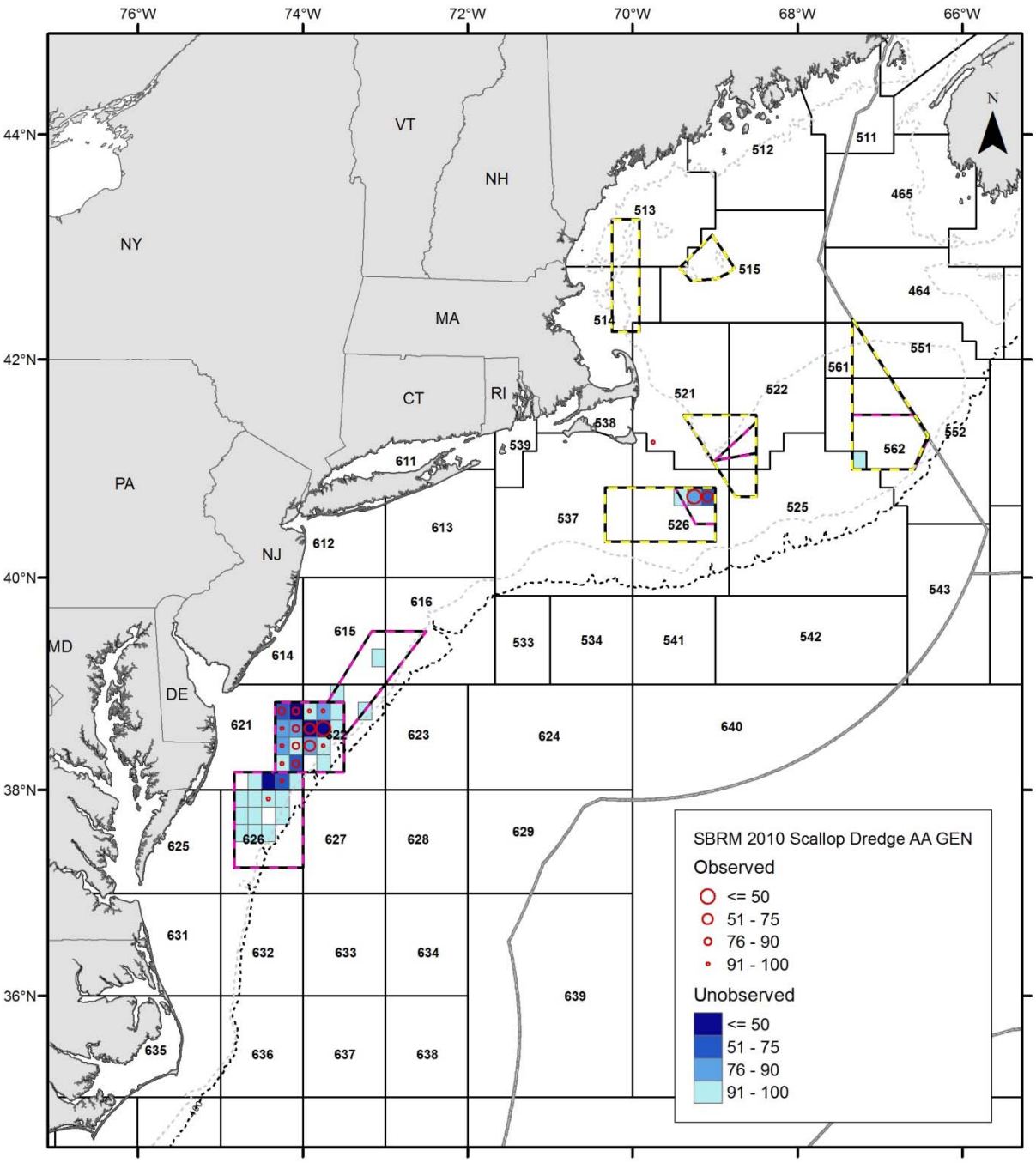
Gillnet extra large mesh (Rows 21 and 24), SBRM 2011

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



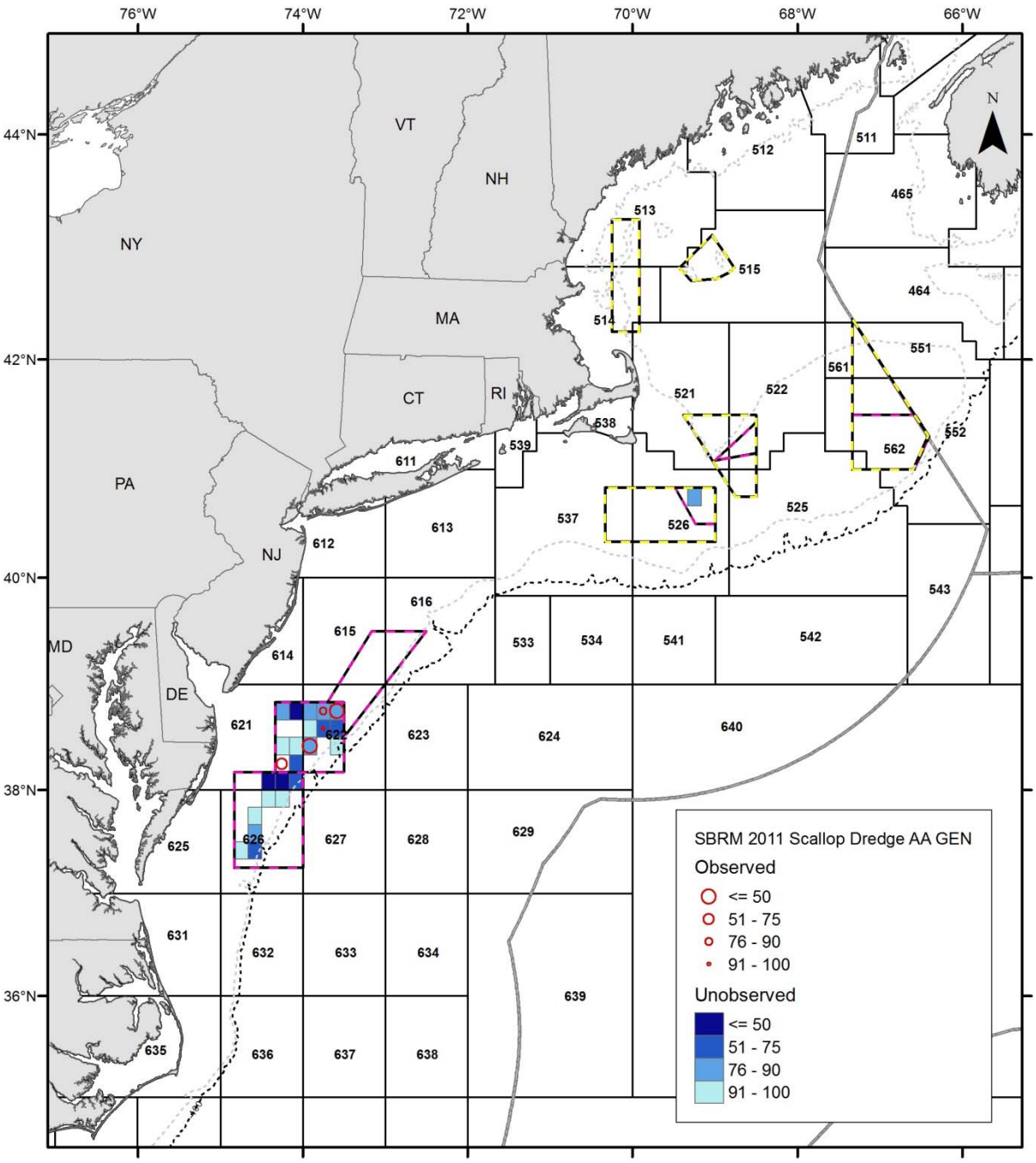
Scallop Dredge AA GEN (Rows 27 and 28), SBRM 2009

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



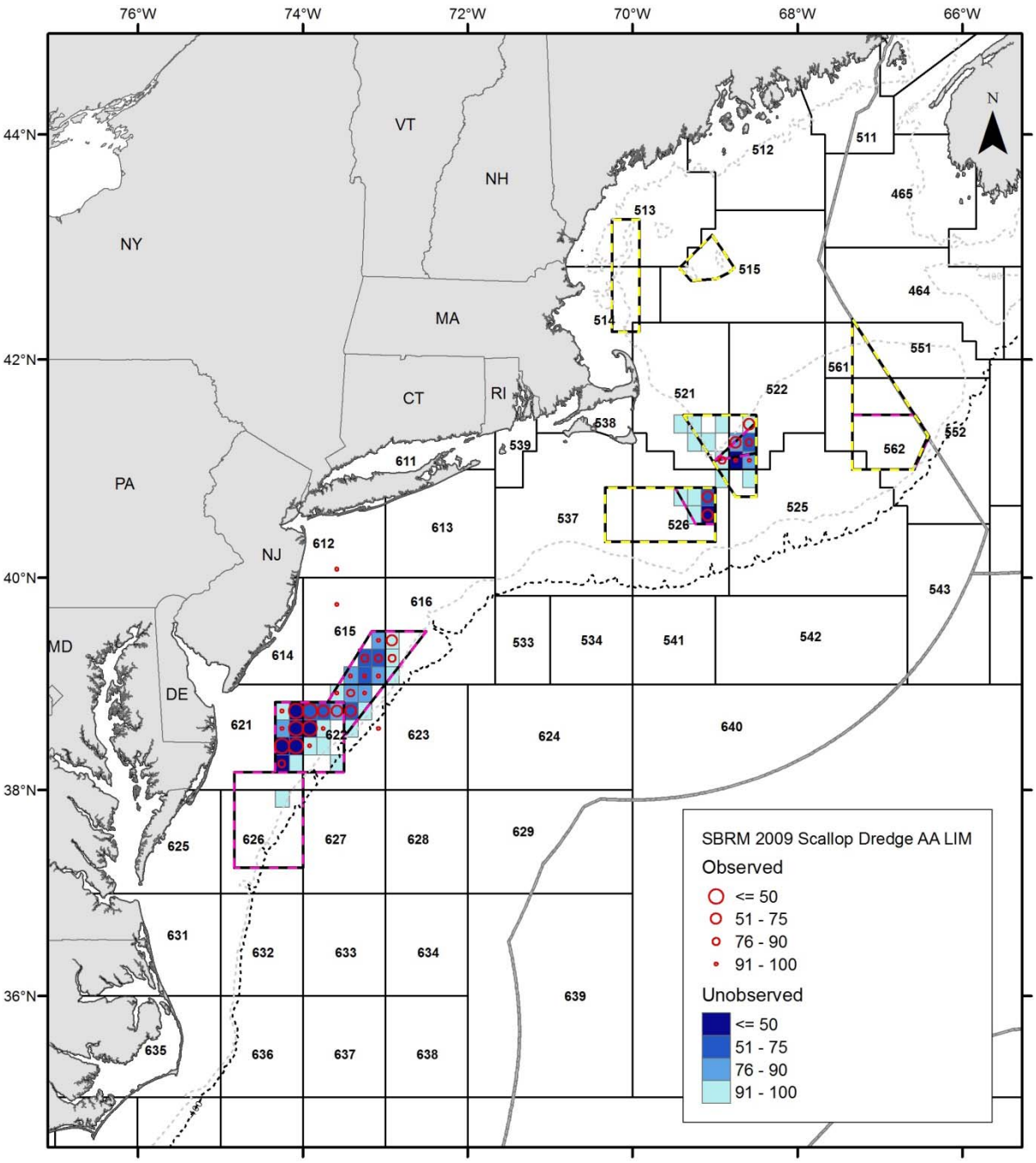
Scallop Dredge AA GEN (Rows 27 and 28), SBRM 2010

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



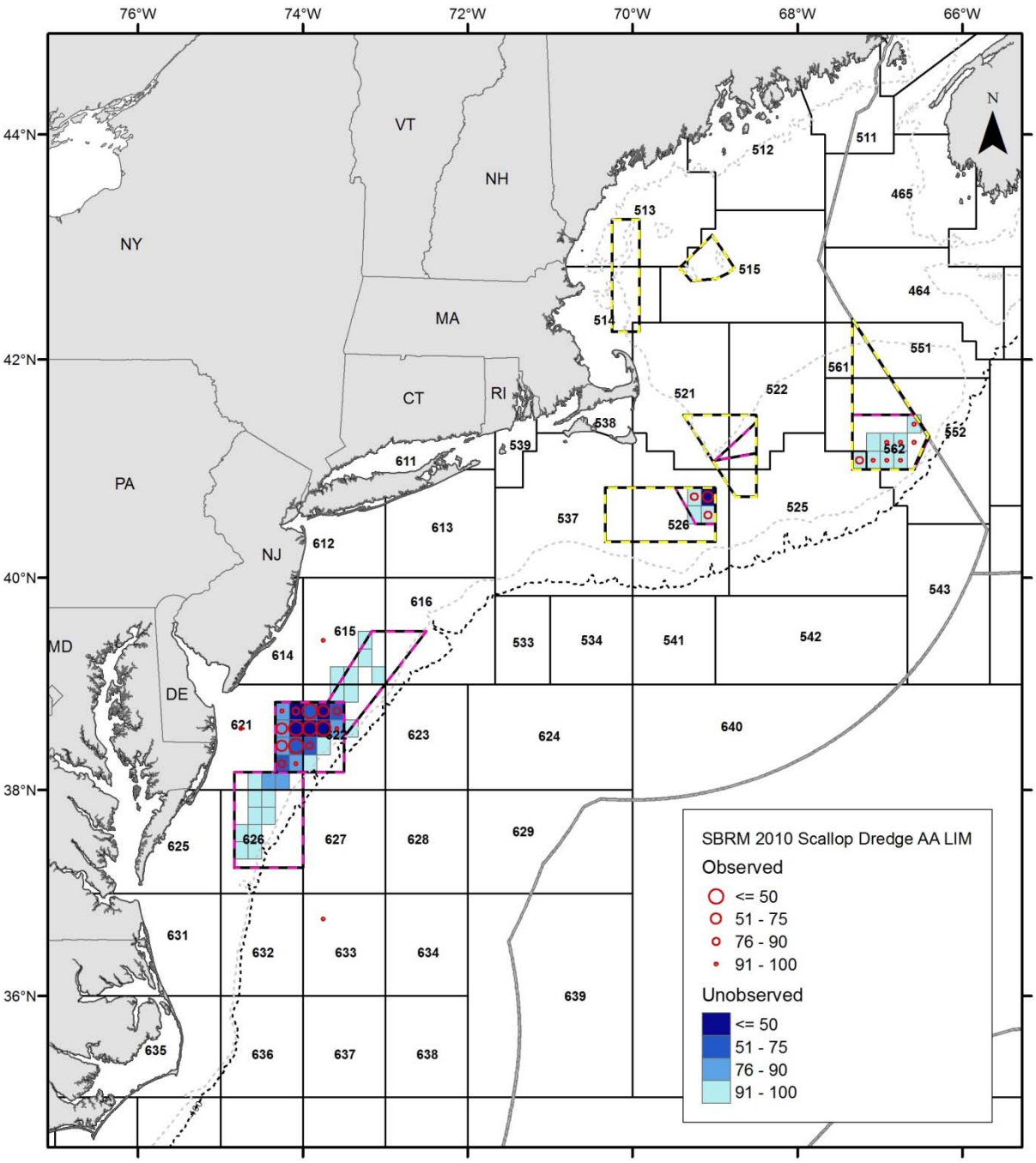
Scallop Dredge AA GEN (Rows 27 and 28), SBRM 2011

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



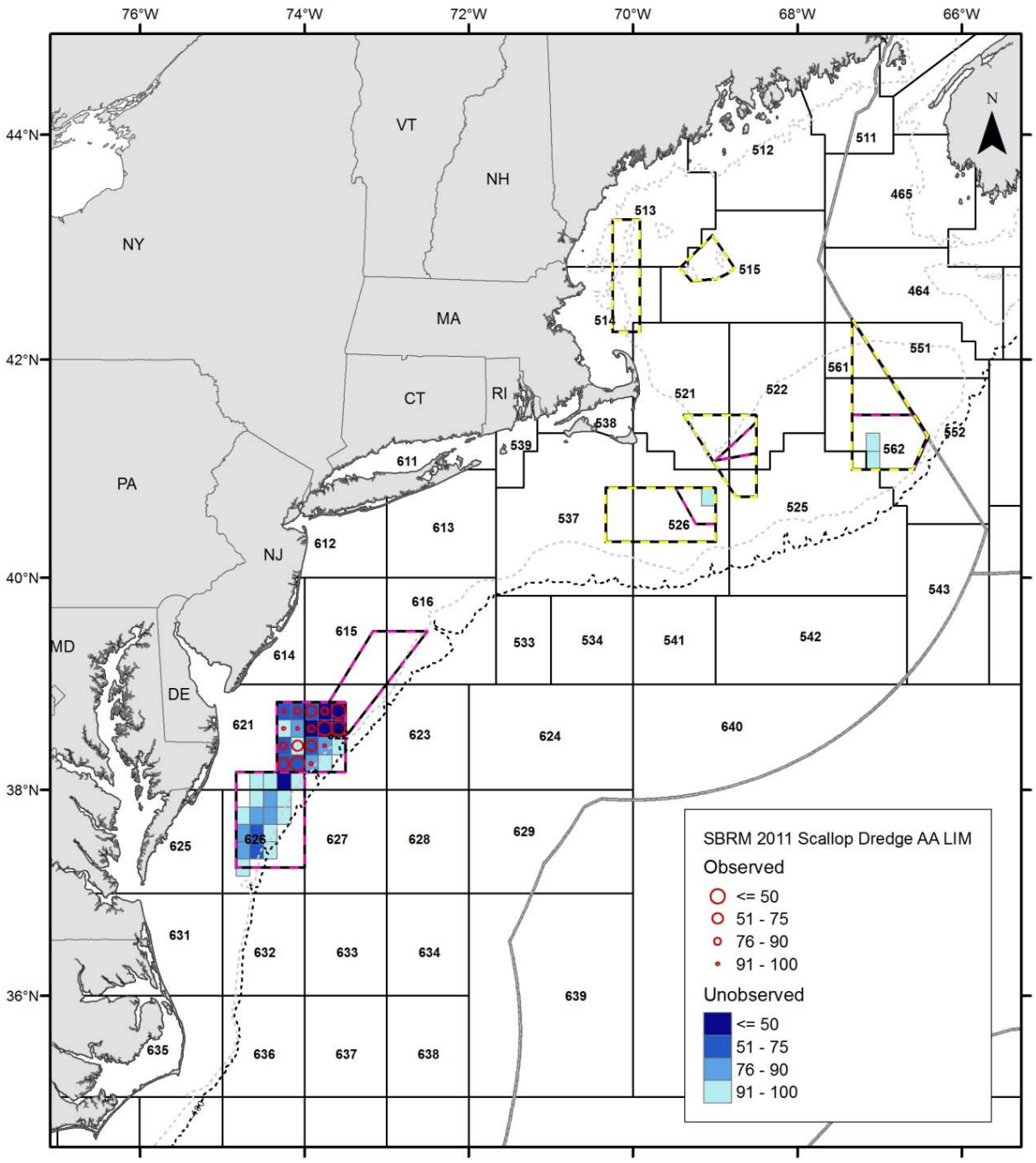
Scallop Dredge AA LIM (Rows 29 and 30), SBRM 2009

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



Scallop Dredge AA LIM (Rows 29 and 30), SBRM 2010

Figure 11, continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.



Scallop Dredge AA LIM (Rows 29 and 30), SBRM 2011

Figure 11 continued. Distribution of observed (NEFOP data; circles) and unobserved (VTR data; squares) subtrips for 8 grouped fleets (16 selected fleets) aggregated to 10' square and classified into the lower 50th, 75th, 90th or 100th cumulative percentiles of total number of subtrips, by grouped fleet and SBRM year. Dashed lines indicate access areas.
Note: Selected fleets include Rows 1, 2, 5-8, 19-24, and 27-30. Fleets have been combined across region into grouped fleets.

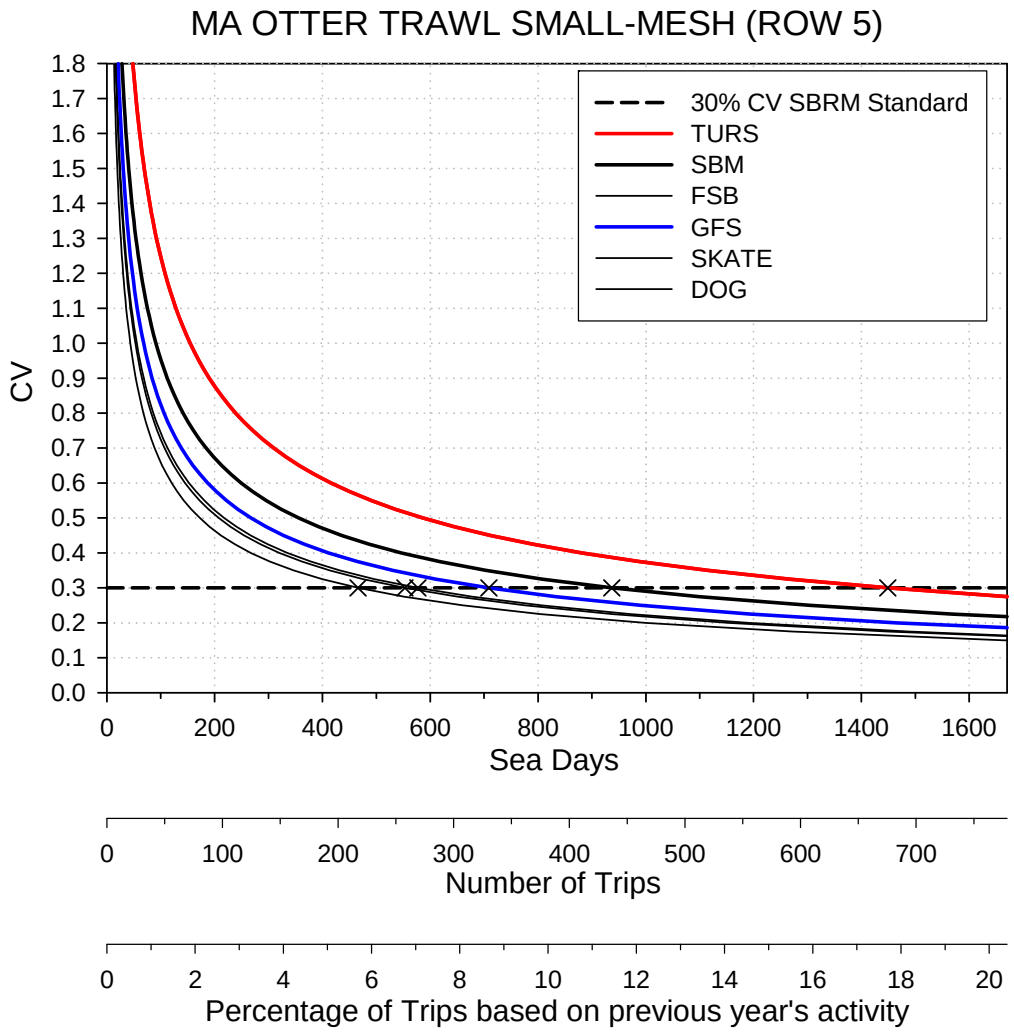


Figure 12. Results from the sample size analysis conducted for MA small-mesh otter trawl fleet (Row 5) for SBRM 2011. The curves represent the relationship between the coefficient of variance (CV) and the sample size (sea days, trips and percent of trips) for each of the species groups that were not filtered out. The dash line is the 30% CV; "x" denotes each species group's requirement to achieve a 30% CV. See Table 1 for species group abbreviations.

Appendix Table 1. Discard reason categories used in Appendix Tables 2A and 2B.

Discard Reason Category	FISH DISPOSITION Code[15]	FISH DISPOSITION Description
No Market	001	NO MARKET, REASON NOT SPECIFIED.
	002	NO MARKET, TOO SMALL
	003	NO MARKET, TOO LARGE
	005	NO MARKET, WONT KEEP UNTIL TRIP END.
	006	NO MARKET, BUT RETAINED BY VESSEL FOR ALTERNATE PROGRAM.
	007	NO MARKET, BUT RETAINED FOR OBSERVER FOR SCIENTIFIC PURPOSES
Poor Quality	031	POOR QUALITY, REASON NOT SPECIFIED
	032	POOR QUALITY, SANDFLEA DAMAGE
	033	POOR QUALITY, SEAL DAMAGE
	034	POOR QUALITY, SHARK DAMAGE
	035	POOR QUALITY, CETACEAN DAMAGE
	036	POOR QUALITY, HAGFISH DAMAGE
	037	POOR QUALITY, SHALL DISEASE
	038	POOR QUALITY, GEAR DAMAGE
Regulation (Size)	012	REGULATIONS PROHIBIT RETENTION, TOO SMALL
	013	REGULATIONS PROHIBIT RETENTION, TOO LARGE
Regulation (Quota)	004	NO MARKET, QUOTA FILLED
	014	REGULATIONS PROHIBIT RETENTION, QUOTA FILLED.
	015	REGULATIONS PROHIBIT RETENTION, NO QUOTA IN AREA.
	025	REGULATIONS PROHIBIT ANY RETENTION.
Regulation (Other)	011	REGULATIONS PROHIBIT RETENTION, REASON NOT SPECIFIED.
	022	REGULATIONS PROHIBIT RETENTION, V-NOTCHED
	023	REGULATIONS PROHIBIT RETENTION, SOFT-SHELL
	024	REGULATIONS PROHIBIT RETENTION, WITH EGGS.
Other	000	DISCARDED GENERAL, UNKNOWN DISCARD REASON
	041	NOT BROUGHT ON BOARD, REASON NOT SPECIFIED
	042	NOT BROUGHT ON BOARD, GEAR DAMAGE PREVENTED CAPTURE
	043	NOT BROUGHT ON BOARD, FELL OUT/OFF OF GEAR
	044	NOT BROUGHT ON BOARD, CONSIDERED TO HAVE NO MARKET VALUE.
	048	NOT BROUGHT ON BOARD, VESSEL CAPACITY FILLED
	049	NOT BROUGHT ON BOARD, NOT ENOUGH FISH TO PUMP ABOARD
	052	INCIDENTAL TAKE (MAMMAL, SEA TURTLE, SEA BIRD)
	053	DEBRIS
	054	EMPTY SHELLS
	062	UPGRADED
	063	RETAINING ONLY CERTAIN SIZE BETTER PRICE TRIP QUOTA IN EFFECT.
	099	OTHER, DISCARDED

[15] Fish disposition code '039' = POOR QUALITY, PREVIOUSLY DISCARDED has been excluded from this report.

Appendix Table 2A. Estimated discards (live pounds) and percentage by discard reason category for 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: BLUEFISH

			Discard by Reason Category [%]						
	Row Gear Type Access Area Trip Category Region Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	34 Other fleets filtered out	170,085	41.9	4.1	20.0	1.6	31.0	1.3	100.0
SBRM 2010	31 Other fleets filtered out	142,100	56.6	0.0	8.2	8.3	26.5	0.4	100.0
SBRM 2011	27 Other fleets filtered out	203,550	65.0	1.0	19.2	0.3	10.6	3.8	100.0

See supporting text for abbreviations.

Appendix Table 2A, continued. Estimated discards (live pounds) and percentage by discard reason category for 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: FLUKE - SCUP - BLACK SEA BASS

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	5	Otter Trawl	OPEN	all	MA	sm	1,834,784	2.8	69.9	25.5	0.1	0.0	1.7	100.0
	6	Otter Trawl	OPEN	all	MA	lg	527,788	4.4	29.5	59.6	0.6	0.1	5.8	100.0
	7	Otter Trawl	OPEN	all	NE	sm	993,007	3.2	57.9	33.2	1.1	0.0	4.5	100.0
	8	Otter Trawl	OPEN	all	NE	lg	1,452,314	8.1	1.1	83.1	0.8	0.5	6.5	100.0
	33	Scallop Dredge	OPEN	LIM	MA	all	726,888	56.0	8.9	29.9	4.6	0.1	0.6	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	1,225,553	54.4	0.0	45.2	0.4	0.0	0.0	100.0
		28 Other fleets filtered out					1,049,451	21.0	55.9	18.7	2.3	1.0	1.1	100.0
SBRM 2010	5	Otter Trawl	OPEN	all	MA	sm	715,731	8.0	35.9	21.1	3.9	0.0	31.0	100.0
	6	Otter Trawl	OPEN	all	MA	lg	829,776	5.7	43.8	32.2	11.2	0.0	7.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	742,568	4.8	38.1	42.1	2.5	0.1	12.4	100.0
	8	Otter Trawl	OPEN	all	NE	lg	683,865	6.2	2.9	82.7	2.4	0.2	5.6	100.0
	33	Scallop Dredge	OPEN	LIM	MA	all	660,745	59.9	4.5	33.4	2.1	0.0	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	552,863	74.1	0.1	25.8	0.0	0.0	0.0	100.0
		25 Other fleets filtered out					680,604	33.0	3.8	37.9	15.9	3.3	6.0	100.0
SBRM 2011	5	Otter Trawl	OPEN	all	MA	sm	1,265,427	18.2	54.3	16.3	0.1	0.8	10.3	100.0
	6	Otter Trawl	OPEN	all	MA	lg	848,382	9.7	48.1	35.6	0.0	0.0	6.6	100.0
	7	Otter Trawl	OPEN	all	NE	sm	1,535,929	11.4	35.6	41.9	1.8	1.3	7.9	100.0
	8	Otter Trawl	OPEN	all	NE	lg	1,233,229	6.6	4.8	77.0	6.9	0.0	4.7	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	743,194	74.4	0.0	25.5	0.0	0.1	0.0	100.0
		22 Other fleets filtered out					705,739	57.7	7.8	28.9	1.6	1.3	2.7	100.0

See supporting text for abbreviations.

Appendix Table 2A, continued. Estimated discards (live pounds) and percentage by discard reason category for 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: HERRING, ATLANTIC

					Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	34	Other fleets filtered out					1,476,876	45.0	0.0	5.0	0.0	0.1	49.9	100.0
SBRM 2010	31	Other fleets filtered out					668,530	11.1	0.1	17.6	18.3	0.0	52.8	100.0
SBRM 2011	27	Other fleets filtered out					599,714	72.3	0.0	6.2	0.1	6.6	14.7	100.0

See supporting text for abbreviations.

Appendix Table 2A, continued. Estimated discards (live pounds) and percentage by discard reason category for 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: LARGE MESH GROUNDFISH

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	6	Otter Trawl	OPEN	all	MA	lg	830,880	33.7	45.4	20.9	0.0	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	1,150,126	52.7	4.5	34.1	8.1	0.6	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	5,235,361	18.0	62.3	11.2	0.2	0.4	7.8	100.0
	23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	873,608	1.5	45.8	13.3	0.0	34.2	5.2	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	2,535,525	75.3	1.0	20.3	1.8	0.0	1.5	100.0
		29 Other fleets filtered out					1,605,501	60.2	13.6	14.8	1.0	8.7	1.7	100.0
SBRM 2010	6	Otter Trawl	OPEN	all	MA	lg	627,887	83.1	10.4	2.7	3.9	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	5,223,893	15.9	48.6	29.9	0.2	0.5	5.0	100.0
	23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	721,373	1.4	37.5	7.1	0.0	45.6	8.3	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	1,500,666	88.0	0.1	11.7	0.0	0.0	0.2	100.0
		27 Other fleets filtered out					1,660,251	46.4	10.9	29.7	8.3	3.7	1.1	100.0
SBRM 2011	6	Otter Trawl	OPEN	all	MA	lg	433,702	72.2	1.4	26.4	0.1	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	5,830,868	19.6	36.0	35.3	0.7	0.7	7.7	100.0
	23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	1,019,883	0.9	34.3	35.0	0.2	26.8	2.7	100.0
	33	Scallop Dredge	OPEN	LIM	MA	all	438,373	98.5	0.1	1.1	0.3	0.0	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	870,249	84.6	0.5	14.8	0.0	0.0	0.0	100.0
		22 Other fleets filtered out					1,386,882	29.8	16.0	45.3	2.1	5.4	1.5	100.0

See supporting text for abbreviations.

Appendix Table 2A, continued. Estimated discards (live pounds) and percentage by discard reason category for 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: MONKFISH

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	5	Otter Trawl	OPEN	all	MA	sm	199,526	20.8	32.8	27.4	0.0	0.0	19.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	620,289	6.1	82.6	8.3	0.0	0.1	2.8	100.0
	24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	287,868	5.3	3.0	0.5	0.0	71.0	20.3	100.0
	29	Scallop Dredge	AA	LIM	MA	all	250,106	79.9	8.6	2.7	8.7	0.1	0.0	100.0
	30	Scallop Dredge	AA	LIM	NE	all	420,509	73.6	5.9	3.6	0.0	0.1	16.7	100.0
	31	Scallop Dredge	OPEN	GEN	MA	all	295,570	39.3	32.7	26.7	0.0	0.0	1.3	100.0
	33	Scallop Dredge	OPEN	LIM	MA	all	2,629,169	66.7	32.9	0.0	0.0	0.4	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	3,291,871	49.0	42.1	4.2	0.0	0.3	4.3	100.0
		26 Other fleets filtered out					553,515	20.4	23.5	17.5	4.2	20.2	14.2	100.0
SBRM 2010	8	Otter Trawl	OPEN	all	NE	lg	581,081	1.7	84.7	3.4	0.0	0.1	10.1	100.0
	21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	269,162	7.3	1.2	11.5	0.0	80.0	0.0	100.0
	24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	201,606	0.3	3.6	6.8	0.0	89.2	0.1	100.0
	30	Scallop Dredge	AA	LIM	NE	all	182,979	76.7	11.9	9.4	0.3	0.6	1.2	100.0
	33	Scallop Dredge	OPEN	LIM	MA	all	788,906	57.1	30.0	11.0	0.0	0.1	1.7	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	2,748,147	38.7	54.4	6.3	0.0	0.1	0.6	100.0
		25 Other fleets filtered out					517,606	58.7	27.8	11.5	0.9	0.4	0.7	100.0
SBRM 2011	6	Otter Trawl	OPEN	all	MA	lg	170,977	27.2	63.4	7.1	0.6	0.0	1.7	100.0
	8	Otter Trawl	OPEN	all	NE	lg	711,231	4.0	84.4	11.3	0.1	0.1	0.0	100.0
	21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	167,290	0.2	0.3	6.7	0.0	92.9	0.0	100.0
	24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	211,237	3.3	10.3	4.3	0.0	74.3	7.8	100.0
	29	Scallop Dredge	AA	LIM	MA	all	297,918	37.7	60.0	2.1	0.0	0.2	0.0	100.0
	30	Scallop Dredge	AA	LIM	NE	all	219,869	75.3	23.9	0.7	0.0	0.2	0.0	100.0
	33	Scallop Dredge	OPEN	LIM	MA	all	1,177,734	63.3	27.7	5.1	0.0	0.2	3.9	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	1,429,710	60.9	30.8	3.1	0.0	0.3	5.0	100.0
		19 Other fleets filtered out					325,672	25.4	46.2	22.7	0.1	0.7	4.9	100.0

See supporting text for abbreviations.

Appendix Table 2A, continued. Estimated discards (live pounds) and percentage by discard reason category for 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: RED CRAB

							Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	8	Otter Trawl	OPEN	all	NE	lg	345,691	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	33 Other fleets filtered out						479,542	61.8	0.0	38.2	0.0	0.0	0.0	100.0
SBRM 2010	31 Other fleets filtered out						4,132,415	57.4	15.9	17.3	0.0	0.1	9.3	100.0
SBRM 2011	8	Otter Trawl	OPEN	all	NE	lg	283,980	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	26 Other fleets filtered out						19,702	100.0	0.0	0.0	0.0	0.0	0.0	100.0

See supporting text for abbreviations.

Appendix Table 2A, continued. Estimated discards (live pounds) and percentage by discard reason category for 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: SEA SCALLOP

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	34	Scallop Dredge	OPEN	LIM	NE	all	5,584,354	84.8	6.8	0.0	0.0	8.1	0.4	100.0
	33 Other fleets filtered out						5,808,077	59.3	0.4	15.2	3.5	13.3	8.3	100.0
SBRM 2010	34	Scallop Dredge	OPEN	LIM	NE	all	5,232,571	96.5	0.1	0.0	0.0	2.9	0.5	100.0
	30 Other fleets filtered out						9,215,840	61.2	0.2	12.5	0.3	12.1	13.7	100.0
SBRM 2011	34	Scallop Dredge	OPEN	LIM	NE	all	11,540,284	92.8	0.3	0.0	0.0	6.4	0.5	100.0
	26 Other fleets filtered out						6,586,627	57.8	0.1	12.4	0.2	11.1	18.4	100.0

Appendix Table 2A, continued. Estimated discards (live pounds) and percentage by discard reason category for 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: SKATE COMPLEX

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	5	Otter Trawl	OPEN	all	MA	sm	4,703,301	99.3	0.0	0.3	0.4	0.0	0.0	100.0
	6	Otter Trawl	OPEN	all	MA	lg	10,801,007	90.2	0.0	4.2	5.4	0.0	0.2	100.0
	7	Otter Trawl	OPEN	all	NE	sm	2,009,167	79.1	0.0	17.4	0.3	0.0	3.2	100.0
	8	Otter Trawl	OPEN	all	NE	lg	39,604,549	93.2	0.1	5.5	0.0	0.1	1.0	100.0
	31	Scallop Dredge	OPEN	GEN	MA	all	5,952,242	99.4	0.0	0.0	0.6	0.0	0.0	100.0
	32	Scallop Dredge	OPEN	GEN	NE	all	1,720,904	99.7	0.0	0.3	0.0	0.0	0.0	100.0
	33	Scallop Dredge	OPEN	LIM	MA	all	21,254,164	97.0	0.0	3.0	0.0	0.0	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	28,353,743	99.0	0.0	1.0	0.1	0.0	0.0	100.0
		26 Other fleets filtered out					5,759,122	78.0	0.1	10.1	0.0	11.5	0.2	100.0
SBRM 2010	5	Otter Trawl	OPEN	all	MA	sm	2,986,734	98.5	0.9	0.6	0.0	0.0	0.0	100.0
	6	Otter Trawl	OPEN	all	MA	lg	16,733,778	95.1	0.0	3.5	0.2	0.0	1.1	100.0
	8	Otter Trawl	OPEN	all	NE	lg	37,546,115	94.9	0.3	3.8	0.1	0.0	0.9	100.0
	24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	1,823,200	20.1	0.0	26.6	7.6	45.2	0.4	100.0
	31	Scallop Dredge	OPEN	GEN	MA	all	2,281,742	99.9	0.1	0.0	0.0	0.0	0.0	100.0
	32	Scallop Dredge	OPEN	GEN	NE	all	1,235,873	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	33	Scallop Dredge	OPEN	LIM	MA	all	13,951,301	93.6	0.0	6.4	0.0	0.0	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	17,304,721	99.2	0.0	0.7	0.0	0.0	0.0	100.0
		23 Other fleets filtered out					6,773,491	96.3	0.0	2.8	0.5	0.3	0.1	100.0

See supporting text for abbreviations.

Appendix Table 2A, continued. Estimated discards (live pounds) and percentage by discard reason category for 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: SKATE COMPLEX

SBRM 2011	5	Otter Trawl	OPEN	all	MA	sm	3,540,263	95.9	0.0	3.8	0.0	0.0	0.2	100.0
	6	Otter Trawl	OPEN	all	MA	lg	9,775,938	93.7	0.0	5.5	0.3	0.0	0.5	100.0
	7	Otter Trawl	OPEN	all	NE	sm	1,278,557	91.8	0.5	7.7	0.0	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	37,831,514	93.5	0.2	5.4	0.2	0.1	0.7	100.0
	24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	1,438,155	18.9	0.1	62.9	7.4	10.5	0.3	100.0
	29	Scallop Dredge	AA	LIM	MA	all	1,344,411	99.7	0.0	0.0	0.0	0.0	0.2	100.0
	31	Scallop Dredge	OPEN	GEN	MA	all	916,028	99.4	0.1	0.0	0.0	0.0	0.5	100.0
	33	Scallop Dredge	OPEN	LIM	MA	all	8,151,093	99.9	0.0	0.1	0.0	0.0	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	14,538,312	99.5	0.0	0.4	0.0	0.0	0.0	100.0
	18 Other fleets filtered out						3,463,558	88.4	0.0	8.6	0.1	1.1	1.8	100.0

Appendix Table 2A, continued. Estimated discards (live pounds) and percentage by discard reason category for 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: SMALL MESH GROUNDFISH

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	5	Otter Trawl	OPEN	all	MA	sm	348,658	90.8	5.9	2.1	0.0	1.2	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	7,380,013	95.5	4.2	0.0	0.0	0.3	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	268,300	98.7	0.6	0.4	0.0	0.2	0.1	100.0
		31 Other fleets filtered out					294,282	57.0	15.0	27.9	0.0	0.0	0.0	100.0
SBRM 2010	5	Otter Trawl	OPEN	all	MA	sm	485,745	73.8	26.1	0.0	0.0	0.0	0.0	100.0
	6	Otter Trawl	OPEN	all	MA	lg	211,627	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	1,688,598	93.9	0.1	3.7	0.0	2.3	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	303,255	95.5	4.4	0.1	0.0	0.1	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	193,810	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	36	Mid-water paired & single Trawl	OPEN	all	NE	all	312,777	1.6	0.0	0.0	98.4	0.0	0.0	100.0
		25 Other fleets filtered out					169,322	96.9	0.2	2.4	0.0	0.5	0.0	100.0
SBRM 2011	5	Otter Trawl	OPEN	all	MA	sm	770,479	99.2	0.7	0.0	0.0	0.1	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	2,688,612	81.1	0.5	8.3	0.0	5.5	4.6	100.0
	8	Otter Trawl	OPEN	all	NE	lg	376,511	97.5	1.2	1.1	0.1	0.1	0.1	100.0
	16	Shrimp Trawl	OPEN	all	NE	all	406,746	56.5	0.0	43.4	0.1	0.0	0.0	100.0
		23 Other fleets filtered out					220,812	98.2	0.3	0.1	0.0	0.8	0.7	100.0

See supporting text for abbreviations.

Appendix Table 2A, continued. Estimated discards (live pounds) and percentage by discard reason category for 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: SPINY DOGFISH

							Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	2	Longline	OPEN	all	NE	all	1,003,812	72.5	0.2	26.7	0.0	0.3	0.4	100.0
	5	Otter Trawl	OPEN	all	MA	sm	4,795,254	93.3	0.0	6.7	0.0	0.0	0.0	100.0
	6	Otter Trawl	OPEN	all	MA	lg	1,376,685	71.6	0.0	7.5	20.9	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	1,672,387	80.4	0.0	16.3	0.0	0.0	3.3	100.0
	8	Otter Trawl	OPEN	all	NE	lg	5,061,866	92.5	0.0	7.1	0.3	0.0	0.1	100.0
	20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	1,833,902	65.6	0.0	34.3	0.0	0.2	0.0	100.0
	21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	352,067	90.4	3.9	5.7	0.0	0.0	0.0	100.0
	23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	5,498,261	62.9	0.3	33.0	3.7	0.1	0.0	100.0
	24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	652,906	50.7	0.2	43.8	0.3	3.8	1.1	100.0
	33	Scallop Dredge	OPEN	LIM	MA	all	471,480	97.9	0.0	1.5	0.5	0.1	0.0	100.0
	36	Mid-water paired & single Trawl	OPEN	all	NE	all	468,537	99.4	0.0	0.6	0.0	0.0	0.0	100.0
		23 Other fleets filtered out					1,164,931	69.7	0.0	28.3	1.9	0.0	0.0	100.0
SBRM 2010	5	Otter Trawl	OPEN	all	MA	sm	3,639,373	98.9	0.0	1.1	0.0	0.0	0.0	100.0
	6	Otter Trawl	OPEN	all	MA	lg	3,069,219	90.6	0.0	8.8	0.5	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	1,460,598	71.9	0.0	27.2	0.0	0.0	0.9	100.0
	8	Otter Trawl	OPEN	all	NE	lg	3,475,180	94.3	0.0	5.5	0.1	0.0	0.1	100.0
	21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	265,403	99.6	0.0	0.0	0.0	0.4	0.0	100.0
	23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	5,745,628	58.6	0.1	35.4	0.0	2.9	2.9	100.0
	24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	656,693	32.1	0.0	56.8	0.1	10.4	0.6	100.0
	33	Scallop Dredge	OPEN	LIM	MA	all	521,329	84.0	0.0	6.6	9.4	0.0	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	259,242	96.8	0.0	3.2	0.0	0.0	0.0	100.0
	36	Mid-water paired & single Trawl	OPEN	all	NE	all	414,845	82.6	0.0	15.9	0.0	0.0	1.5	100.0
		21 Other fleets filtered out					2,524,121	37.3	0.0	4.6	5.5	52.1	0.4	100.0

See supporting text for abbreviations.

Appendix Table 2A, continued. Estimated discards (live pounds) and percentage by discard reason category for 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: SPINY DOGFISH

SBRM 2011	2	Longline	OPEN	all	NE	all	540,018	53.6	0.0	5.9	7.1	0.3	33.2	100.0
	5	Otter Trawl	OPEN	all	MA	sm	2,833,663	73.2	0.0	26.8	0.0	0.0	0.0	100.0
	6	Otter Trawl	OPEN	all	MA	lg	2,763,575	85.5	0.0	14.5	0.0	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	2,140,535	57.1	0.0	34.7	2.8	0.0	5.3	100.0
	8	Otter Trawl	OPEN	all	NE	lg	3,087,876	87.3	0.0	12.6	0.0	0.0	0.1	100.0
	20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	205,613	87.7	0.0	12.3	0.0	0.0	0.0	100.0
	23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	5,940,164	62.0	0.6	34.2	0.9	1.1	1.1	100.0
	24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	224,007	72.6	0.4	10.3	2.2	13.3	1.2	100.0
	36	Mid-water paired & single Trawl	OPEN	all	NE	all	773,838	88.8	0.0	11.1	0.1	0.0	0.0	100.0
	18 Other fleets filtered out						776,441	91.3	0.0	7.0	1.2	0.2	0.3	100.0

Appendix Table 2A, continued. Estimated discards (live pounds) and percentage by discard reason category for 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: SQUID - BUTTERFISH - MACKEREL

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	7	Otter Trawl	OPEN	all	NE	sm	4,452,594	95.3	4.7	0.0	0.0	0.0	0.0	100.0
	33 Other fleets filtered out						940,762	82.3	2.0	0.0	0.2	0.7	14.8	100.0
SBRM 2010	5	Otter Trawl	OPEN	all	MA	sm	2,876,172	52.7	1.1	0.1	0.0	11.9	34.1	100.0
	30 Other fleets filtered out						1,801,752	45.2	5.2	13.6	0.1	4.1	31.8	100.0
SBRM 2011	5	Otter Trawl	OPEN	all	MA	sm	2,014,244	77.8	1.3	0.9	0.0	0.5	19.5	100.0
	7	Otter Trawl	OPEN	all	NE	sm	1,871,057	69.9	8.9	7.0	0.0	1.1	13.0	100.0
	25 Other fleets filtered out						119,772	89.8	0.2	7.2	0.0	1.7	1.1	100.0

Appendix Table 2A, continued. Estimated discards (live pounds) and percentage by discard reason category for 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: SURFCLAM - OCEAN QUAHOG

					Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	34	Other fleets filtered out					153,827	100.0	0.0	0.0	0.0	0.0	0.0	100.0
SBRM 2010	31	Other fleets filtered out					225,516	98.4	0.0	0.0	0.0	0.0	1.6	100.0
SBRM 2011	27	Other fleets filtered out					55,119	99.8	0.0	0.0	0.0	0.0	0.2	100.0

See supporting text for abbreviations.

Appendix Table 2A, continued. Estimated discards (live pounds) and percentage by discard reason category for 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: TILEFISH

			Discard by Reason Category [%]						
	Row Gear Type Access Area Trip Category Region Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	34 Other fleets filtered out	16,806	51.2	0.6	0.0	45.7	2.4	0.0	100.0
SBRM 2010	31 Other fleets filtered out	6,835	46.9	29.0	24.1	0.0	0.0	0.0	100.0
SBRM 2011	27 Other fleets filtered out	16,349	33.7	8.2	36.7	0.0	5.1	16.4	100.0

Appendix Table 2B. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: BLACK SEA BASS

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	5	Otter Trawl	OPEN	all	MA	sm	194,383	0.3	92.3	7.3	0.0	0.0	0.0	100.0
		33 Other fleets filtered out					459,772	2.2	95.3	1.3	1.2	0.0	0.0	100.0
SBRM 2010	5	Otter Trawl	OPEN	all	MA	sm	62,801	19.0	23.6	56.4	0.0	0.0	1.0	100.0
	6	Otter Trawl	OPEN	all	MA	lg	82,307	19.1	22.4	36.0	22.5	0.0	0.0	100.0
		29 Other fleets filtered out					83,049	12.1	7.1	32.9	3.1	0.0	44.7	100.0
SBRM 2011	5	Otter Trawl	OPEN	all	MA	sm	144,258	7.5	61.6	16.8	0.9	0.0	13.3	100.0
	6	Otter Trawl	OPEN	all	MA	lg	95,530	6.8	41.1	15.9	0.1	0.0	36.1	100.0
	7	Otter Trawl	OPEN	all	NE	sm	109,865	8.4	22.1	54.9	14.5	0.0	0.2	100.0
		24 Other fleets filtered out					35,925	65.5	5.7	27.0	1.8	0.1	0.0	100.0

See supporting text for abbreviations.

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: FLUKE

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	5	Otter Trawl	OPEN	all	MA	sm	528,944	5.2	26.8	61.8	0.1	0.0	6.1	100.0
	6	Otter Trawl	OPEN	all	MA	lg	388,202	2.2	33.0	62.1	0.0	0.1	2.6	100.0
	7	Otter Trawl	OPEN	all	NE	sm	262,977	4.2	9.0	81.4	3.5	0.0	1.9	100.0
	8	Otter Trawl	OPEN	all	NE	lg	1,440,613	8.0	0.7	83.5	0.7	0.5	6.5	100.0
	31	Scallop Dredge	OPEN	GEN	MA	all	208,288	51.5	11.0	37.0	0.5	0.0	0.0	100.0
	33	Scallop Dredge	OPEN	LIM	MA	all	721,491	55.7	9.0	30.0	4.7	0.1	0.6	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	1,224,730	54.4	0.0	45.2	0.4	0.0	0.0	100.0
		27 Other fleets filtered out					272,756	39.9	1.3	42.4	8.3	3.9	4.1	100.0
SBRM 2010	5	Otter Trawl	OPEN	all	MA	sm	190,222	9.4	11.6	51.3	14.6	0.0	13.1	100.0
	6	Otter Trawl	OPEN	all	MA	lg	315,289	0.1	48.1	49.5	0.0	0.0	2.3	100.0
	8	Otter Trawl	OPEN	all	NE	lg	646,789	6.0	2.1	83.3	2.6	0.2	5.8	100.0
	24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	180,273	17.9	0.0	12.4	57.9	11.9	0.0	100.0
	29	Scallop Dredge	AA	LIM	MA	all	113,500	65.1	5.9	25.4	0.0	0.1	3.5	100.0
	33	Scallop Dredge	OPEN	LIM	MA	all	658,059	59.7	4.5	33.6	2.1	0.0	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	549,414	73.9	0.1	26.0	0.0	0.0	0.0	100.0
		24 Other fleets filtered out					393,868	30.2	6.4	58.1	1.1	0.5	3.6	100.0
SBRM 2011	5	Otter Trawl	OPEN	all	MA	sm	299,035	20.6	28.1	35.6	0.1	3.3	12.3	100.0
	6	Otter Trawl	OPEN	all	MA	lg	635,149	2.0	54.9	39.8	0.0	0.0	3.4	100.0
	7	Otter Trawl	OPEN	all	NE	sm	332,917	19.0	11.6	53.5	1.4	7.0	7.5	100.0
	8	Otter Trawl	OPEN	all	NE	lg	1,114,142	4.3	3.5	79.4	7.6	0.0	5.2	100.0
	33	Scallop Dredge	OPEN	LIM	MA	all	257,735	66.5	15.0	16.7	0.3	1.4	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	734,765	74.2	0.0	25.7	0.0	0.1	0.0	100.0
		21 Other fleets filtered out					428,572	51.1	3.7	37.1	2.4	1.3	4.4	100.0

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: SCUP

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	5	Otter Trawl	OPEN	all	MA	sm	1,111,456	2.0	86.1	11.7	0.2	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	697,582	2.8	76.6	14.8	0.0	0.0	5.8	100.0
	32 Other fleets filtered out						298,590	6.4	59.9	25.7	0.4	0.0	7.5	100.0
SBRM 2010	5	Otter Trawl	OPEN	all	MA	sm	462,708	5.8	48.1	2.9	0.0	0.0	43.2	100.0
	6	Otter Trawl	OPEN	all	MA	lg	432,181	7.7	44.2	18.6	17.7	0.0	11.8	100.0
	7	Otter Trawl	OPEN	all	NE	sm	616,740	4.2	41.7	39.1	2.4	0.0	12.7	100.0
	28 Other fleets filtered out						78,953	12.0	20.8	66.0	0.0	0.1	1.2	100.0
SBRM 2011	5	Otter Trawl	OPEN	all	MA	sm	822,134	19.3	62.9	8.8	0.0	0.0	9.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	1,093,148	9.7	43.0	37.8	0.7	0.0	8.8	100.0
	25 Other fleets filtered out						228,726	42.3	17.0	40.6	0.0	0.0	0.1	100.0

See supporting text for abbreviations.

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: AMERICAN PLAICE

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	7	Otter Trawl	OPEN	all	NE	sm	35,458	39.1	3.0	58.0	0.0	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	393,082	1.4	98.2	0.0	0.0	0.4	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	29,288	66.8	0.0	23.6	9.3	0.1	0.3	100.0
	31 Other fleets filtered out						36,833	29.8	33.9	36.3	0.0	0.0	0.0	100.0
SBRM 2010	8	Otter Trawl	OPEN	all	NE	lg	496,358	1.5	97.6	0.4	0.0	0.3	0.1	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	48,582	99.8	0.0	0.2	0.0	0.0	0.0	100.0
	29 Other fleets filtered out						62,987	30.3	14.5	54.7	0.0	0.6	0.0	100.0
SBRM 2011	8	Otter Trawl	OPEN	all	NE	lg	837,991	2.7	96.9	0.1	0.1	0.2	0.0	100.0
	16	Shrimp Trawl	OPEN	all	NE	all	47,447	39.4	0.2	57.8	2.5	0.0	0.0	100.0
	25 Other fleets filtered out						76,908	56.5	9.9	30.5	2.9	0.1	0.2	100.0

See supporting text for abbreviations.

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: ATLANTIC COD

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	8	Otter Trawl	OPEN	all	NE	lg	1,435,440	1.0	62.3	14.7	0.0	0.2	21.9	100.0
	23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	277,461	0.7	32.6	33.1	0.0	18.6	15.0	100.0
		32 Other fleets filtered out					320,319	3.7	52.2	27.4	0.7	11.6	4.4	100.0
SBRM 2010	8	Otter Trawl	OPEN	all	NE	lg	1,484,782	1.4	51.9	37.7	0.0	0.1	8.9	100.0
	23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	405,673	0.2	30.9	10.7	0.0	43.6	14.6	100.0
		29 Other fleets filtered out					210,198	3.0	55.7	27.1	1.6	7.4	5.2	100.0
SBRM 2011	8	Otter Trawl	OPEN	all	NE	lg	1,688,548	6.5	29.9	44.8	0.0	0.4	18.4	100.0
	23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	611,556	0.0	20.9	53.2	0.0	21.2	4.6	100.0
		25 Other fleets filtered out					260,289	3.4	58.9	19.9	0.2	15.6	2.0	100.0

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: ATLANTIC HALIBUT

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	8	Otter Trawl	OPEN	all	NE	lg	11,334	5.1	80.3	11.7	0.9	0.8	1.1	100.0
	23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	2,025	2.7	84.0	13.3	0.0	0.0	0.0	100.0
	24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	2,401	0.0	70.7	0.0	0.0	12.0	17.3	100.0
		31 Other fleets filtered out					417	73.2	10.2	16.6	0.0	0.0	0.0	100.0
SBRM 2010	8	Otter Trawl	OPEN	all	NE	lg	15,217	4.7	68.8	21.6	2.3	0.0	2.7	100.0
	23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	1,851	0.0	100.0	0.0	0.0	0.0	0.0	100.0
		29 Other fleets filtered out					744	19.1	0.0	0.7	37.4	42.8	0.0	100.0
SBRM 2011	8	Otter Trawl	OPEN	all	NE	lg	33,989	2.0	77.6	16.1	0.7	0.0	3.6	100.0
	23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	2,078	7.0	50.8	40.0	0.7	1.5	0.0	100.0
	24	Sink, Anchor, Drift Gillnet	OPEN	all	NE	xlg	1,801	0.0	88.8	3.8	0.0	7.4	0.0	100.0
		24 Other fleets filtered out					867	27.5	51.3	13.8	0.0	0.0	7.5	100.0

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: ATLANTIC WOLFFISH

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	8	Otter Trawl	OPEN	all	NE	lg	3,088	93.2	1.1	5.6	0.0	0.0	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	1,594	100.0	0.0	0.0	0.0	0.0	0.0	100.0
		32 Other fleets filtered out					1,926	84.6	0.0	15.4	0.0	0.0	0.0	100.0
SBRM 2010		31 Other fleets filtered out					22,439	12.1	0.2	87.0	0.3	0.0	0.5	100.0
SBRM 2011	2	Longline	OPEN	all	NE	all	2,904	3.3	0.0	96.7	0.0	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	13,826	9.6	0.3	89.5	0.0	0.0	0.7	100.0
	23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	2,178	4.2	0.0	93.7	2.1	0.0	0.0	100.0
		24 Other fleets filtered out					1,259	0.0	1.1	98.2	0.0	0.0	0.7	100.0

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: HADDOCK

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	6	Otter Trawl	OPEN	all	MA	lg	333,902	0.0	100.0	0.0	0.0	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	901,388	0.8	98.2	0.0	0.0	0.6	0.4	100.0
	32 Other fleets filtered out						95,254	6.0	28.8	7.1	0.7	49.8	7.7	100.0
SBRM 2010	8	Otter Trawl	OPEN	all	NE	lg	332,470	0.4	87.7	0.2	0.0	4.3	7.3	100.0
	30 Other fleets filtered out						206,966	5.4	15.4	61.5	1.3	12.9	3.6	100.0
SBRM 2011	27 Other fleets filtered out						171,808	9.0	54.1	20.0	0.4	10.9	5.7	100.0

See supporting text for abbreviations.

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: OCEAN POUT

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	2	Longline	OPEN	all	NE	all	5,132	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	6	Otter Trawl	OPEN	all	MA	lg	8,260	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	38,305	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	180,457	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	30 Other fleets filtered out						11,364	100.0	0.0	0.0	0.0	0.0	0.0	100.0
SBRM 2010	6	Otter Trawl	OPEN	all	MA	lg	5,270	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	7,013	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	171,537	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	5,118	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	27 Other fleets filtered out						23,053	100.0	0.0	0.0	0.0	0.0	0.0	100.0
SBRM 2011	5	Otter Trawl	OPEN	all	MA	sm	21,439	87.2	0.0	12.8	0.0	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	22,982	86.2	0.0	9.2	0.0	0.0	4.6	100.0
	8	Otter Trawl	OPEN	all	NE	lg	143,698	63.7	0.1	36.2	0.0	0.0	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	7,469	98.6	0.0	1.4	0.0	0.0	0.0	100.0
	23 Other fleets filtered out						10,252	64.5	0.0	33.7	0.0	0.0	1.8	100.0

See supporting text for abbreviations.

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: POLLOCK

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	514,701	0.0	52.3	0.0	0.0	47.7	0.0	100.0
	33 Other fleets filtered out						49,704	9.8	20.8	1.8	30.3	37.1	0.2	100.0
SBRM 2010	31 Other fleets filtered out						276,282	0.7	44.7	2.3	0.0	52.3	0.0	100.0
SBRM 2011	23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	265,221	0.2	65.8	0.0	0.0	34.0	0.0	100.0
	26 Other fleets filtered out						122,622	25.6	43.7	3.6	0.1	25.8	1.1	100.0

See supporting text for abbreviations.

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: REDFISH

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	8	Otter Trawl	OPEN	all	NE	lg	246,664	17.1	79.2	0.0	0.0	0.0	3.8	100.0
	16	Shrimp Trawl	OPEN	all	NE	all	30,298	1.9	52.7	45.4	0.0	0.0	0.0	100.0
		32 Other fleets filtered out					22,306	4.8	82.8	1.1	1.8	9.2	0.3	100.0
SBRM 2010	8	Otter Trawl	OPEN	all	NE	lg	276,650	22.6	76.8	0.0	0.0	0.0	0.6	100.0
	36	Mid-water paired & single Trawl	OPEN	all	NE	all	46,609	0.0	0.0	0.0	100.0	0.0	0.0	100.0
		29 Other fleets filtered out					41,447	27.2	52.0	12.3	0.0	8.4	0.0	100.0
SBRM 2011	8	Otter Trawl	OPEN	all	NE	lg	480,050	47.6	48.7	1.5	0.0	1.9	0.3	100.0
		26 Other fleets filtered out					48,452	27.1	19.9	50.6	1.3	1.1	0.0	100.0

See supporting text for abbreviations.

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: WHITE HAKE

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	7	Otter Trawl	OPEN	all	NE	sm	540,684	99.7	0.0	0.3	0.0	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	26,390	74.4	24.7	0.0	0.0	0.9	0.0	100.0
	32 Other fleets filtered out						54,371	57.3	20.0	2.3	0.2	20.1	0.0	100.0
SBRM 2010	6	Otter Trawl	OPEN	all	MA	lg	29,356	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	65,332	95.5	0.3	4.2	0.0	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	43,935	73.2	17.9	8.3	0.0	0.4	0.2	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	27,479	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	27 Other fleets filtered out						54,723	39.4	1.3	10.3	0.0	41.2	7.8	100.0
SBRM 2011	7	Otter Trawl	OPEN	all	NE	sm	33,248	96.2	2.4	1.2	0.0	0.1	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	57,523	67.7	25.3	6.7	0.0	0.3	0.0	100.0
	23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	39,809	3.1	2.0	0.3	0.0	94.7	0.0	100.0
	24 Other fleets filtered out						65,379	67.1	0.1	23.6	0.3	8.9	0.0	100.0

See supporting text for abbreviations.

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: WINDOWPANE FLOUNDER

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	5	Otter Trawl	OPEN	all	MA	sm	119,724	92.5	0.4	7.1	0.0	0.0	0.0	100.0
	6	Otter Trawl	OPEN	all	MA	lg	256,473	87.5	6.5	6.0	0.0	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	46,361	65.8	31.8	2.4	0.1	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	777,705	77.7	22.2	0.0	0.0	0.1	0.0	100.0
	31	Scallop Dredge	OPEN	GEN	MA	all	232,862	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	33	Scallop Dredge	OPEN	LIM	MA	all	126,078	78.7	0.0	21.3	0.0	0.0	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	400,975	98.2	0.0	1.6	0.1	0.0	0.1	100.0
		27 Other fleets filtered out					58,319	94.9	0.2	4.5	0.3	0.0	0.0	100.0
SBRM 2010	5	Otter Trawl	OPEN	all	MA	sm	91,070	99.7	0.0	0.3	0.0	0.0	0.0	100.0
	6	Otter Trawl	OPEN	all	MA	lg	448,607	94.2	0.9	0.0	4.9	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	664,835	73.8	22.3	2.6	0.7	0.0	0.6	100.0
	31	Scallop Dredge	OPEN	GEN	MA	all	79,293	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	32	Scallop Dredge	OPEN	GEN	NE	all	58,185	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	33	Scallop Dredge	OPEN	LIM	MA	all	130,664	91.4	0.0	8.6	0.0	0.0	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	188,487	100.0	0.0	0.0	0.0	0.0	0.0	100.0
		24 Other fleets filtered out					49,916	86.5	1.1	11.1	1.1	0.1	0.0	100.0
SBRM 2011	5	Otter Trawl	OPEN	all	MA	sm	97,867	82.1	3.5	13.0	0.1	0.0	1.4	100.0
	6	Otter Trawl	OPEN	all	MA	lg	322,985	90.4	0.5	9.0	0.0	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	732,386	70.5	0.6	27.7	1.3	0.0	0.0	100.0
	33	Scallop Dredge	OPEN	LIM	MA	all	291,712	99.3	0.0	0.7	0.0	0.0	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	248,513	98.9	0.0	1.1	0.0	0.0	0.0	100.0
		22 Other fleets filtered out					78,567	86.8	1.0	12.2	0.0	0.0	0.0	100.0

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: WINTER FLOUNDER

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	5	Otter Trawl	OPEN	all	MA	sm	69,843	63.0	1.4	18.5	17.1	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	350,789	14.6	6.4	67.2	11.9	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	135,891	10.5	54.8	31.2	0.2	2.3	1.0	100.0
	30	Scallop Dredge	AA	LIM	NE	all	48,839	87.8	0.0	12.0	0.0	0.0	0.1	100.0
	31	Scallop Dredge	OPEN	GEN	MA	all	61,810	49.4	0.0	50.6	0.0	0.0	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	792,694	67.4	1.4	28.1	1.0	0.0	2.1	100.0
		28 Other fleets filtered out					93,149	53.4	23.8	20.7	0.9	0.7	0.5	100.0
SBRM 2010	6	Otter Trawl	OPEN	all	MA	lg	106,070	41.3	42.7	14.1	1.8	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	95,082	12.5	14.8	62.9	9.8	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	313,087	6.1	22.2	67.1	0.6	1.0	3.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	484,715	93.9	0.0	5.2	0.0	0.0	0.9	100.0
		27 Other fleets filtered out					99,032	49.9	3.6	39.6	5.7	0.9	0.2	100.0
SBRM 2011	5	Otter Trawl	OPEN	all	MA	sm	110,362	11.9	4.9	79.6	0.7	0.0	3.0	100.0
	6	Otter Trawl	OPEN	all	MA	lg	80,726	3.6	1.6	94.2	0.5	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	177,040	8.6	9.4	75.7	6.3	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	207,122	21.0	30.2	41.1	3.5	4.2	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	215,615	79.0	0.5	20.4	0.0	0.0	0.0	100.0
		22 Other fleets filtered out					42,697	40.3	5.0	45.8	7.1	1.4	0.3	100.0

See supporting text for abbreviations.

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: WITCH FLOUNDER

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	5	Otter Trawl	OPEN	all	MA	sm	13,313	95.7	0.0	4.3	0.0	0.0	0.0	100.0
	6	Otter Trawl	OPEN	all	MA	lg	14,421	50.4	39.5	10.1	0.0	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	102,575	3.8	95.5	0.1	0.0	0.6	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	60,430	69.6	0.1	29.9	0.3	0.0	0.0	100.0
	30 Other fleets filtered out						46,757	60.1	17.6	21.6	0.7	0.0	0.0	100.0
SBRM 2010	5	Otter Trawl	OPEN	all	MA	sm	35,735	94.5	0.0	5.5	0.0	0.0	0.0	100.0
	6	Otter Trawl	OPEN	all	MA	lg	29,304	87.6	12.4	0.0	0.0	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	183,923	1.4	97.6	0.4	0.2	0.1	0.2	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	107,135	99.6	0.1	0.2	0.0	0.0	0.0	100.0
	27 Other fleets filtered out						36,110	71.2	6.3	22.3	0.2	0.0	0.0	100.0
SBRM 2011	5	Otter Trawl	OPEN	all	MA	sm	56,227	33.0	26.7	37.7	2.6	0.0	0.0	100.0
	6	Otter Trawl	OPEN	all	MA	lg	22,585	72.9	1.0	26.2	0.0	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	251,238	2.7	96.8	0.3	0.0	0.2	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	32,462	84.4	0.3	14.6	0.0	0.0	0.7	100.0
	23 Other fleets filtered out						60,616	66.5	3.4	27.9	2.0	0.2	0.0	100.0

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: YELLOWTAIL FLOUNDER

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	6	Otter Trawl	OPEN	all	MA	lg	191,135	0.0	13.8	86.2	0.0	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	86,033	18.9	0.1	57.6	23.4	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	1,006,872	3.8	53.6	33.1	1.1	0.2	8.3	100.0
	33	Scallop Dredge	OPEN	LIM	MA	all	203,607	85.0	8.0	7.0	0.0	0.0	0.1	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	1,219,139	73.9	1.1	20.7	2.8	0.0	1.5	100.0
		29 Other fleets filtered out					111,971	39.8	8.4	44.1	4.7	2.9	0.0	100.0
SBRM 2010	7	Otter Trawl	OPEN	all	NE	sm	45,478	0.0	5.1	93.9	0.9	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	1,192,981	1.7	28.7	62.5	0.1	0.1	6.9	100.0
	30	Scallop Dredge	AA	LIM	NE	all	48,874	76.6	1.4	19.9	0.1	0.0	2.0	100.0
	32	Scallop Dredge	OPEN	GEN	NE	all	96,221	12.3	1.1	28.8	57.8	0.0	0.0	100.0
	33	Scallop Dredge	OPEN	LIM	MA	all	74,797	47.7	0.5	30.9	20.9	0.0	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	629,909	77.5	0.2	22.3	0.0	0.0	0.0	100.0
		25 Other fleets filtered out					82,485	35.9	29.4	32.3	0.0	2.3	0.1	100.0
SBRM 2011	7	Otter Trawl	OPEN	all	NE	sm	65,117	1.7	2.3	90.2	5.8	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	1,227,498	0.9	17.2	68.3	1.5	0.4	11.8	100.0
	23	Sink, Anchor, Drift Gillnet	OPEN	all	NE	lg	69,795	0.7	38.6	53.0	0.0	7.3	0.4	100.0
	33	Scallop Dredge	OPEN	LIM	MA	all	113,754	96.7	0.3	1.5	1.5	0.0	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	315,041	77.0	0.9	22.0	0.0	0.0	0.0	100.0
		22 Other fleets filtered out					88,439	8.0	4.9	84.4	2.1	0.1	0.5	100.0

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: OFFSHORE HAKE

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	8	Otter Trawl	OPEN	all	NE	lg	3,139	98.1	0.0	1.9	0.0	0.0	0.0	100.0
	33 Other fleets filtered out						572	100.0	0.0	0.0	0.0	0.0	0.0	100.0
SBRM 2010	8	Otter Trawl	OPEN	all	NE	lg	2,056	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	30 Other fleets filtered out						270	100.0	0.0	0.0	0.0	0.0	0.0	100.0
SBRM 2011	7	Otter Trawl	OPEN	all	NE	sm	3,862	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	14,057	99.8	0.2	0.0	0.0	0.0	0.0	100.0
	25 Other fleets filtered out						36,308	99.2	0.8	0.0	0.0	0.0	0.0	100.0

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: RED HAKE

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	5	Otter Trawl	OPEN	all	MA	sm	83,936	77.2	22.8	0.0	0.0	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	3,070,931	97.6	2.4	0.0	0.0	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	183,240	99.0	0.9	0.0	0.0	0.0	0.2	100.0
	31 Other fleets filtered out						127,837	86.9	4.3	8.8	0.0	0.0	0.0	100.0
SBRM 2010	5	Otter Trawl	OPEN	all	MA	sm	268,386	58.7	41.3	0.0	0.0	0.0	0.0	100.0
	6	Otter Trawl	OPEN	all	MA	lg	201,854	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	498,656	94.0	0.0	6.0	0.0	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	154,020	91.9	8.0	0.0	0.0	0.0	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	149,721	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	26 Other fleets filtered out						34,850	95.4	0.9	3.6	0.0	0.0	0.0	100.0
SBRM 2011	5	Otter Trawl	OPEN	all	MA	sm	414,944	99.6	0.4	0.0	0.0	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	1,470,893	99.6	0.4	0.0	0.0	0.0	0.0	100.0
	8	Otter Trawl	OPEN	all	NE	lg	173,737	98.0	2.0	0.0	0.0	0.0	0.0	100.0
	34	Scallop Dredge	OPEN	LIM	NE	all	70,703	99.9	0.1	0.0	0.0	0.0	0.0	100.0
	23 Other fleets filtered out						47,119	87.8	0.1	9.2	0.5	0.7	1.6	100.0

See supporting text for abbreviations.

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: SILVER HAKE

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	5	Otter Trawl	OPEN	all	MA	sm	264,722	94.5	1.2	2.7	0.0	1.6	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	4,309,056	94.1	5.4	0.0	0.0	0.5	0.0	100.0
	32 Other fleets filtered out						247,820	55.5	15.3	29.0	0.0	0.3	0.0	100.0
SBRM 2010	5	Otter Trawl	OPEN	all	MA	sm	217,359	89.4	10.6	0.0	0.0	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	1,189,899	93.9	0.2	2.8	0.0	3.2	0.0	100.0
	36	Mid-water paired & single Trawl	OPEN	all	NE	all	312,637	1.6	0.0	0.0	98.4	0.0	0.0	100.0
	28 Other fleets filtered out						335,426	98.5	0.3	0.9	0.0	0.3	0.0	100.0
SBRM 2011	5	Otter Trawl	OPEN	all	MA	sm	320,412	98.7	1.1	0.0	0.0	0.2	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	1,213,858	60.5	0.6	17.6	0.0	11.6	9.7	100.0
	16	Shrimp Trawl	OPEN	all	NE	all	401,291	57.3	0.0	42.7	0.0	0.0	0.0	100.0
	24 Other fleets filtered out						295,977	97.0	0.4	1.5	0.2	0.5	0.4	100.0

See supporting text for abbreviations.

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: ATLANTIC MACKEREL

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	7	Otter Trawl	OPEN	all	NE	sm	1,966,343	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	33 Other fleets filtered out						80,957	73.9	0.0	0.1	0.0	0.0	26.0	100.0
SBRM 2010	31 Other fleets filtered out						295,791	26.1	0.2	0.1	0.0	54.2	19.5	100.0
SBRM 2011	27 Other fleets filtered out						115,323	97.1	0.0	0.6	0.0	1.8	0.5	100.0

See supporting text for abbreviations.

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: BUTTERFISH

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	5	Otter Trawl	OPEN	all	MA	sm	161,997	90.5	9.5	0.0	0.0	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	460,730	68.3	31.7	0.0	0.0	0.0	0.0	100.0
	36	Mid-water paired & single Trawl	OPEN	all	NE	all	100,283	100.0	0.0	0.0	0.0	0.0	0.0	100.0
		31 Other fleets filtered out					12,534	98.7	1.3	0.0	0.0	0.0	0.0	100.0
SBRM 2010	5	Otter Trawl	OPEN	all	MA	sm	922,916	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	1,029,752	43.6	8.2	18.3	0.1	0.0	29.8	100.0
		29 Other fleets filtered out					8,043	88.6	0.0	11.4	0.0	0.0	0.0	100.0
SBRM 2011	5	Otter Trawl	OPEN	all	MA	sm	1,023,354	96.5	2.1	1.5	0.0	0.0	0.0	100.0
	7	Otter Trawl	OPEN	all	NE	sm	955,325	82.8	15.8	0.7	0.1	0.0	0.6	100.0
		25 Other fleets filtered out					14,244	83.9	0.9	15.2	0.0	0.0	0.0	100.0

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: ILLEX SQUID

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009	7	Otter Trawl	OPEN	all	NE	sm	1,969,899	100.0	0.0	0.0	0.0	0.0	0.0	100.0
	33 Other fleets filtered out						451,753	99.6	0.0	0.1	0.0	0.0	0.3	100.0
SBRM 2010	5	Otter Trawl	OPEN	all	MA	sm	1,577,296	25.8	0.0	0.3	0.0	0.0	73.9	100.0
	30 Other fleets filtered out						554,801	43.9	0.0	9.4	0.4	8.4	37.9	100.0
SBRM 2011	5	Otter Trawl	OPEN	all	MA	sm	720,987	31.6	0.0	0.0	0.0	0.0	68.4	100.0
	26 Other fleets filtered out						717,892	51.1	0.0	17.1	0.0	2.3	29.5	100.0

See supporting text for abbreviations.

Appendix Table 2B, continued. Estimated discards (live pounds) and percentage by discard reason category for individual species comprising the 14 SBRM species groups for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010).

Species Group: LOLIGO SQUID

								Discard by Reason Category [%]						
	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Discarded	No Market	Regulation (Size)	Regulation (Quota)	Regulation (Other)	Poor Quality	Other	Total %
SBRM 2009		34 Other fleets filtered out					167,478	47.5	10.1	0.0	1.4	1.5	39.7	100.0
SBRM 2010		31 Other fleets filtered out					283,394	45.1	8.9	0.5	0.0	35.0	10.5	100.0
SBRM 2011	5	Otter Trawl	OPEN	all	MA	sm	235,748	94.3	0.1	0.1	0.0	5.4	0.0	100.0
		26 Other fleets filtered out					196,578	88.2	9.3	0.5	0.0	1.5	0.4	100.0

See supporting text for abbreviations.

Appendix Table 3. List of fleets and SBRM species groups with associated coefficient of variation (CV) for which the SBRM performance classification was "Not Met" for non-pilot cells for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). See Table 1 and supporting text for SBRM species group abbreviation.

SBRM year	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	CV
2009	2	Longline	OPEN	all	NE	all	DOG	0.632
2009	5	Otter Trawl	OPEN	all	MA	sm	FSB	0.322
2009	5	Otter Trawl	OPEN	all	MA	sm	MONK	0.380
2009	5	Otter Trawl	OPEN	all	MA	sm	GFS	0.560
2009	5	Otter Trawl	OPEN	all	MA	sm	DOG	0.380
2009	5	Otter Trawl	OPEN	all	MA	sm	TURS	0.610
2009	6	Otter Trawl	OPEN	all	MA	lg	GFL	0.435
2009	6	Otter Trawl	OPEN	all	MA	lg	TURS	0.678
2009	7	Otter Trawl	OPEN	all	NE	sm	FSB	1.918
2009	7	Otter Trawl	OPEN	all	NE	sm	GFL	0.773
2009	7	Otter Trawl	OPEN	all	NE	sm	SKATE	0.959
2009	7	Otter Trawl	OPEN	all	NE	sm	GFS	0.379
2009	7	Otter Trawl	OPEN	all	NE	sm	DOG	0.975
2009	7	Otter Trawl	OPEN	all	NE	sm	SBM	0.419
2009	19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	TURS	0.994
2009	20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	DOG	1.198
2009	21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	DOG	0.342
2009	21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	TURS	0.880
2009	31	Scallop Dredge	OPEN	GEN	MA	all	MONK	0.624
2009	32	Scallop Dredge	OPEN	GEN	NE	all	SKATE	0.713
2009	36	Mid-water paired & single Trawl	OPEN	all	NE	all	DOG	0.451
2010	5	Otter Trawl	OPEN	all	MA	sm	FSB	0.663
2010	5	Otter Trawl	OPEN	all	MA	sm	SKATE	0.427
2010	5	Otter Trawl	OPEN	all	MA	sm	GFS	0.374
2010	5	Otter Trawl	OPEN	all	MA	sm	DOG	0.434
2010	5	Otter Trawl	OPEN	all	MA	sm	SBM	0.441
2010	5	Otter Trawl	OPEN	all	MA	sm	TURS	0.644
2010	6	Otter Trawl	OPEN	all	MA	lg	FSB	0.319
2010	6	Otter Trawl	OPEN	all	MA	lg	GFS	1.013
2010	6	Otter Trawl	OPEN	all	MA	lg	DOG	0.302
2010	7	Otter Trawl	OPEN	all	NE	sm	FSB	0.880
2010	7	Otter Trawl	OPEN	all	NE	sm	GFS	0.636
2010	7	Otter Trawl	OPEN	all	NE	sm	DOG	0.841
2010	7	Otter Trawl	OPEN	all	NE	sm	TURS	0.723
2010	20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	TURS	0.930
2010	21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	TURS	0.485
2010	31	Scallop Dredge	OPEN	GEN	MA	all	SKATE	0.309
2010	32	Scallop Dredge	OPEN	GEN	NE	all	SKATE	0.311
2010	33	Scallop Dredge	OPEN	LIM	MA	all	TURS	0.826
2010	36	Mid-water paired & single Trawl	OPEN	all	NE	all	GFS	0.382
2011	2	Longline	OPEN	all	NE	all	DOG	0.327
2011	5	Otter Trawl	OPEN	all	MA	sm	GFS	0.330
2011	5	Otter Trawl	OPEN	all	MA	sm	SBM	0.383
2011	5	Otter Trawl	OPEN	all	MA	sm	TURS	0.492
2011	6	Otter Trawl	OPEN	all	MA	lg	TURS	0.847
2011	7	Otter Trawl	OPEN	all	NE	sm	SKATE	0.323
2011	7	Otter Trawl	OPEN	all	NE	sm	GFS	0.339
2011	7	Otter Trawl	OPEN	all	NE	sm	SBM	0.312
2011	7	Otter Trawl	OPEN	all	NE	sm	TURS	1.187

Appendix Table 3, continued. List of fleets and SBRM species groups with associated coefficient of variation (CV) for which the SBRM performance classification was "Not Met" for non-pilot cells for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). See Table 1 and supporting text for SBRM species group abbreviation.

SBRM year	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	Species Group	CV
2011	8	Otter Trawl	OPEN	all	NE	lg	RCRAB	0.551
2011	20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	DOG	0.475
2011	20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	TURS	0.793
2011	21	Sink, Anchor, Drift Gillnet	OPEN	all	MA	xlg	MONK	0.306
2011	33	Scallop Dredge	OPEN	LIM	MA	all	GFL	0.453
2011	33	Scallop Dredge	OPEN	LIM	MA	all	TURS	0.551

Appendix Table 4. List of fleets for which the SBRM performance classification was "Unknown" for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). Unless otherwise noted, all of the 15 species groups were "Unknown" within the fleets listed. Fleets with a "*" indicate that only the 14 FISH species groups were "Unknown"; SBRM performance for sea turtles was known due to the separate datasets (FISH versus PSPP; Wigley et al. 2011). See supporting text for abbreviations.

SBRM year	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	
2009	1	Longline	OPEN	all	MA	all	
2009	3	Hand Line	OPEN	all	MA	all	
2009	4	Hand Line	OPEN	all	NE	all	
2009	9	Scallop Trawl	AA	GEN	MA	all	
2009	10	Scallop Trawl	AA	LIM	MA	all	
2009	11	Scallop Trawl	OPEN	GEN	MA	all	
2009	12	Scallop Trawl	OPEN	LIM	MA	all	
2009	15	Shrimp Trawl	OPEN	all	MA	all	
2009	22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	
2009	25	Purse Seine	OPEN	all	MA	all	
2009	35	Mid-water paired & single Trawl	OPEN	all	MA	all	
2009	37	Pots and Traps, Fish	OPEN	all	MA	all	
2009	38	Pots and Traps, Fish	OPEN	all	NE	all	
2009	39	Pots and Traps, Conch	OPEN	all	MA	all	
2009	40	Pots and Traps, Conch	OPEN	all	NE	all	
2009	41	Pots and Traps, Hagfish	OPEN	all	MA	all	
2009	44	Pots and Traps, Lobster	OPEN	all	MA	all	
2009	45	Pots and Traps, Lobster	OPEN	all	NE	all	
2009	46	Pots and Traps, Crab	OPEN	all	MA	all	
2009	47	Pots and Traps, Crab	OPEN	all	NE	all	
2009	51	Ocean Quahog/Surf Clam Dredge	OPEN	all	MA	all	
2009	52	Ocean Quahog/Surf Clam Dredge	OPEN	all	NE	all	
2010	1	Longline	OPEN	all	MA	all	
2010	3	Hand Line	OPEN	all	MA	all	
2010	9	Scallop Trawl	AA	GEN	MA	all	
2010	10	Scallop Trawl	AA	LIM	MA	all	
2010	11	Scallop Trawl	OPEN	GEN	MA	all	
2010	12	Scallop Trawl	OPEN	LIM	MA	all	
2010	13	Otter Trawl, Ruhle	OPEN	all	NE	lg	
2010	15	Shrimp Trawl	OPEN	all	MA	all	
2010	17	Floating Trap	OPEN	all	MA	all	
2010	18	Floating Trap	OPEN	all	NE	all	
2010	20	Sink, Anchor, Drift Gillnet	OPEN	all	MA	lg	*
2010	22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	
2010	25	Purse Seine	OPEN	all	MA	all	
2010	35	Mid-water paired & single Trawl	OPEN	all	MA	all	
2010	37	Pots and Traps, Fish	OPEN	all	MA	all	
2010	38	Pots and Traps, Fish	OPEN	all	NE	all	
2010	39	Pots and Traps, Conch	OPEN	all	MA	all	
2010	40	Pots and Traps, Conch	OPEN	all	NE	all	
2010	41	Pots and Traps, Hagfish	OPEN	all	MA	all	
2010	43	Pots and Traps, Shrimp	OPEN	all	NE	all	
2010	44	Pots and Traps, Lobster	OPEN	all	MA	all	

Please Note: the SBRM performance classification was unknown for all species groups in these fleets and thus are not listed by species group; the "*" indicates pilot for fish only.

Appendix Table 4, continued. List of fleets for which the SBRM performance classification was "Unknown" for SBRM 2009 (July 2007 through June 2008), SBRM 2010 (July 2008 through June 2009), and SBRM 2011 (July 2009 through June 2010). Unless otherwise noted, all of the 15 species groups were "Unknown" within the fleets listed. Fleets with a "*" indicate that only the 14 FISH species groups were "Unknown"; SBRM performance for sea turtles was known due to the separate datasets (FISH versus PSPP; Wigley et al. 2011). See supporting text for abbreviations.

SBRM year	Row	Gear Type	Access Area	Trip Category	Region	Mesh Group	
2010	45	Pots and Traps, Lobster	OPEN	all	NE	all	
2010	46	Pots and Traps, Crab	OPEN	all	MA	all	
2010	47	Pots and Traps, Crab	OPEN	all	NE	all	
2010	48	Beam Trawl	OPEN	all	MA	all	
2010	49	Beam Trawl	OPEN	all	NE	all	
2010	50	Dredge, Other	OPEN	all	MA	all	
2010	51	Ocean Quahog/Surf Clam Dredge	OPEN	all	MA	all	
2010	52	Ocean Quahog/Surf Clam Dredge	OPEN	all	NE	all	
2011	1	Longline	OPEN	all	MA	all	
2011	3	Hand Line	OPEN	all	MA	all	
2011	9	Scallop Trawl	AA	GEN	MA	all	
2011	10	Scallop Trawl	AA	LIM	MA	all	
2011	11	Scallop Trawl	OPEN	GEN	MA	all	
2011	12	Scallop Trawl	OPEN	LIM	MA	all	
2011	15	Shrimp Trawl	OPEN	all	MA	all	
2011	17	Floating Trap	OPEN	all	MA	all	
2011	18	Floating Trap	OPEN	all	NE	all	
2011	19	Sink, Anchor, Drift Gillnet	OPEN	all	MA	sm	*
2011	22	Sink, Anchor, Drift Gillnet	OPEN	all	NE	sm	
2011	25	Purse Seine	OPEN	all	MA	all	
2011	27	Scallop Dredge	AA	GEN	MA	all	
2011	28	Scallop Dredge	AA	GEN	NE	all	
2011	35	Mid-water paired & single Trawl	OPEN	all	MA	all	
2011	37	Pots and Traps, Fish	OPEN	all	MA	all	
2011	38	Pots and Traps, Fish	OPEN	all	NE	all	
2011	39	Pots and Traps, Conch	OPEN	all	MA	all	
2011	40	Pots and Traps, Conch	OPEN	all	NE	all	
2011	41	Pots and Traps, Hagfish	OPEN	all	MA	all	
2011	43	Pots and Traps, Shrimp	OPEN	all	NE	all	
2011	44	Pots and Traps, Lobster	OPEN	all	MA	all	
2011	45	Pots and Traps, Lobster	OPEN	all	NE	all	
2011	46	Pots and Traps, Crab	OPEN	all	MA	all	
2011	47	Pots and Traps, Crab	OPEN	all	NE	all	
2011	48	Beam Trawl	OPEN	all	MA	all	
2011	49	Beam Trawl	OPEN	all	NE	all	
2011	50	Dredge, Other	OPEN	all	MA	all	
2011	51	Ocean Quahog/Surf Clam Dredge	OPEN	all	MA	all	
2011	52	Ocean Quahog/Surf Clam Dredge	OPEN	all	NE	all	

Please Note: the SBRM performance classification was unknown for all species groups in these fleets and thus are not listed by species group; the "*" indicates pilot for fish only.

Appendix Table 5. List of participants, and their affiliation, on the SBRM FMAT conference calls to discuss the SBRM 3-year Review Report –Part 2.

Jessica Blaylock, NMFS/NEFSC
Katie Drew, ASMFC
Heather Haas, NMFS/NEFSC
Ellen Keane, NMFS/NERO
Chris Kellogg, NEFMC
Toni Kerns, ASFMC
Kimberly Murray, NMFS/NEFSC
Tom Nies, NEFMC
Doug Potts, NMFS/NERO
Paul Rago, NMFS/NEFSC
Rich Seagraves, MAFMC
Mike Simpkins, NMFS/NEFSC
Lori Steele, NEFMC
Sara Weeks, NMFS/NERO
Susan Wigley, NMFS/NEFSC

Procedures for Issuing Manuscripts in the *Northeast Fisheries Science Center Reference Document* (CRD) Series

Clearance

All manuscripts submitted for issuance as CRDs must have cleared the NEFSC's manuscript/abstract/webpage review process. If any author is not a federal employee, he/she will be required to sign an "NEFSC Release-of-Copyright Form." If your manuscript includes material from another work which has been copyrighted, then you will need to work with the NEFSC's Editorial Office to arrange for permission to use that material by securing release signatures on the "NEFSC Use-of-Copyrighted-Work Permission Form."

For more information, NEFSC authors should see the NEFSC's online publication policy manual, "Manuscript/abstract/webpage preparation, review, and dissemination: NEFSC author's guide to policy, process, and procedure," located in the Publications/Manuscript Review section of the NEFSC intranet page.

Organization

Manuscripts must have an abstract and table of contents, and (if applicable) lists of figures and tables. As much as possible, use traditional scientific manuscript organization for sections: "Introduction," "Study Area" and/or "Experimental Apparatus," "Methods," "Results," "Discussion," "Conclusions," "Acknowledgments," and "Literature/References Cited."

Style

The CRD series is obligated to conform with the style contained in the current edition of the United States Government Printing Office Style Manual. That style manual is silent on many aspects of scientific manuscripts. The CRD series relies more on the CSE Style Manual. Manuscripts should be prepared to conform with these style manuals.

The CRD series uses the American Fisheries Society's guides to names of fishes, mollusks, and decapod crustaceans, the Society for Marine Mammalogy's guide to names of marine mammals, the Biosciences Information Service's guide to serial title abbreviations, and the ISO's (International Standardization Organization) guide to statistical terms.

For in-text citation, use the name-date system. A special effort should be made to ensure that all necessary bibliographic information is included in the list of cited works. Personal communications must include date, full name, and full mailing address of the contact.

Preparation

Once your document has cleared the review process, the Editorial Office will contact you with publication needs – for example, revised text (if necessary) and separate digital figures and tables if they are embedded in the document. Materials may be submitted to the Editorial Office as files on zip disks or CDs, email attachments, or intranet downloads. Text files should be in Microsoft Word, tables may be in Word or Excel, and graphics files may be in a variety of formats (JPG, GIF, Excel, PowerPoint, etc.).

Production and Distribution

The Editorial Office will perform a copy-edit of the document and may request further revisions. The Editorial Office will develop the inside and outside front covers, the inside and outside back covers, and the title and bibliographic control pages of the document.

Once both the PDF (print) and Web versions of the CRD are ready, the Editorial Office will contact you to review both versions and submit corrections or changes before the document is posted online.

A number of organizations and individuals in the Northeast Region will be notified by e-mail of the availability of the document online.

Research Communications Branch
Northeast Fisheries Science Center
National Marine Fisheries Service, NOAA
166 Water St.
Woods Hole, MA 02543-1026

MEDIA MAIL

Publications and Reports of the Northeast Fisheries Science Center

The mission of NOAA's National Marine Fisheries Service (NMFS) is "stewardship of living marine resources for the benefit of the nation through their science-based conservation and management and promotion of the health of their environment." As the research arm of the NMFS's Northeast Region, the Northeast Fisheries Science Center (NEFSC) supports the NMFS mission by "conducting ecosystem-based research and assessments of living marine resources, with a focus on the Northeast Shelf, to promote the recovery and long-term sustainability of these resources and to generate social and economic opportunities and benefits from their use." Results of NEFSC research are largely reported in primary scientific media (*e.g.*, anonymously-peer-reviewed scientific journals). However, to assist itself in providing data, information, and advice to its constituents, the NEFSC occasionally releases its results in its own media. Currently, there are three such media:

NOAA Technical Memorandum NMFS-NE -- This series is issued irregularly. The series typically includes: data reports of long-term field or lab studies of important species or habitats; synthesis reports for important species or habitats; annual reports of overall assessment or monitoring programs; manuals describing program-wide surveying or experimental techniques; literature surveys of important species or habitat topics; proceedings and collected papers of scientific meetings; and indexed and/or annotated bibliographies. All issues receive internal scientific review and most issues receive technical and copy editing.

Northeast Fisheries Science Center Reference Document -- This series is issued irregularly. The series typically includes: data reports on field and lab studies; progress reports on experiments, monitoring, and assessments; background papers for, collected abstracts of, and/or summary reports of scientific meetings; and simple bibliographies. Issues receive internal scientific review and most issues receive copy editing.

Resource Survey Report (formerly *Fishermen's Report*) -- This information report is a regularly-issued, quick-turnaround report on the distribution and relative abundance of selected living marine resources as derived from each of the NEFSC's periodic research vessel surveys of the Northeast's continental shelf. This report undergoes internal review, but receives no technical or copy editing.

TO OBTAIN A COPY of a *NOAA Technical Memorandum NMFS-NE* or a *Northeast Fisheries Science Center Reference Document*, either contact the NEFSC Editorial Office (166 Water St., Woods Hole, MA 02543-1026; 508-495-2350) or consult the NEFSC webpage on "Reports and Publications" (http://www.nefsc.noaa.gov/nefsc/publications/). To access *Resource Survey Report*, consult the Ecosystem Surveys Branch webpage (http://www.nefsc.noaa.gov/femad/ecosurvey/mainpage/).

ANY USE OF TRADE OR BRAND NAMES IN ANY NEFSC PUBLICATION OR REPORT DOES NOT IMPLY ENDORSEMENT.